Journal of Aircraft and Spacecraft Technology

Review

"Defiant", a Today Unique Helicopter in the World

Relly Victoria Virgil Petrescu

ARoTMM-IFToMM, Bucharest Polytechnic University, Bucharest, (CE) Romania

Article history
Received: 27-03-2019
Revised: 28-03-2019
Accepted: 11-04-2019

Email: rvvpetrescu@gmail.com

Abstract: You do not see helicopters like this every day. Sikorsky-Boeing SB1 Defiant in his first demonstration flight showed that it is much more than just a fancy design on paper as he could initially think, with a first relevant flight demonstration. The initial flight lasted less than 30 min, enough time for Defiant to prove he can climb and descend easily, move back and forth and turn left and right with extraordinary ease and maneuverability. Companies have described this action as a low-speed flight maneuver and a short film has revealed that the helicopter can also operate in the area of about 10 to 20 m of land successfully. His first start in the inaugural flight test was held at a Sikorsky airport in West Palm Beach, Florida. SB1 Defiant has an unusual design that instantly conquers you. If most helicopters have one main rotor for vertical lifting, "Defiant" has a pair of coaxial rotors, one rotating clockwise and the other rotating trigonometrically (counterclockwise) to achieve a balancing the dynamics of the couple - that is, to prevent it from overturning one side or another. This means that the aircraft no longer needs the standard rotor at the helicopter tail. Instead, it has a new, distinctive, rear-wheel drive, which has the role of getting Defiant's zoom along the high-speed horizontal flight. "Defiant" is designed to fly at almost twice the speed of classic helicopters while maintaining the best low speed and hover performance of conventional helicopters. Coaxial design can also be found in some Russian military helicopters but without a propeller. Sikorsky used the project earlier (with the propeller) in the experimental X2 helicopter and the next S-97 Raider. The Defiant Project is considered by the United States Army for the Future Lift Vertical program, which intends to find a replacement for many of the US military helicopters used today (Finally, as in the early 2030s, where Defiant's rival in that area is the Bell V-280 Valor, which is not a helicopter, but rather a V-22 Osprey-like tiller-like aircraft used by US marines. The V-280 has been able to improve flight quality since its first flight in December 2017). The Sikorsky-Boeing team will then analyze the flight data recorder and film on this first demonstration flight with the aim of establishing a plan for several "Defiant" test flights in the coming weeks and months to confirm other important features of the new helicopter, before making a complete presentation, for massive future production orders. Sikorsky and Boeing have long been working on this high-speed military helicopter project and have released the first images of what is expected to become a very efficient utility helicopter of the United States Army sometime in 2030. SB1 Defiant is a technology demonstrator with Future Lift technology, built around the Sikorsky X2 platform, using two counter-rotating blades at the top of the plane to eliminate the problem of a 150 km/h traction rotor (~ 240 km/h).

Keywords: Boeing, Sikorsky, SB1 Defiant, STOVL

Introduction

Sikorsky and Boeing have reunited this time to build a new helicopter, able to quickly take off vertically, thus achieving a true ultra-fast lift, but also with great maneuverability, capabilities that will give it some advantages special in front of classical helicopters. It can move easily in any direction, simultaneously with tilt

maneuvers and with very fast attack and defense, regardless of the height it is found, being able to move permanently including the zigzag as we have shown already at even low altitudes, to which other helicopters do not have the courage to handle either side or the other, in order not to become unbalanced and fall out of the lack of altitude. In other words, it is a beehive or a beehive bee that may, while struggling to carry out various operations including military, obviously of recognition, espionage, or attack even during confusing flight including low altitude, acceleration and large decelerations, with higher speeds than classic helicopters, which can double from them.

Sikorsky and Boeing have long been working on this high-speed military helicopter project and have released the first images of what is expected to become a very efficient utility helicopter of the United States Army sometime in 2030.

SB1 Defiant is a technology demonstrator with Future Lift technology, built around the Sikorsky X2 platform, using two counter-rotating blades at the top of the plane to eliminate the problem of a 150 km/h traction rotor (~ 240 km/h).

Simply placing it in a stable hover without wind, a helicopter tip blade generates an equal amount of lifting of its entire rotation around the central axis.

But when you begin to move through the air, the blade starts to develop an extra height on the side where the blades hurry forward in the wind and rise less on the opposite side, where the blades turn with the wind.

This can become so unbalanced that it threatens to defy the helicopter altogether if you do not stay at a defined maximum air speed.

Sikorsky technology places two main rotors one above the other, rotating in opposite directions, balancing the lift profile on both sides and allowing the ship to fly much faster - up to twice the speed of a regular helicopter - agility.

It also eliminates the need for a rotor because the rotation can only be managed with top rotors. SB1 Defiant uses a propeller to the rear, along with active hooks and lifts.

At take-off, this means that the aircraft can rise and move quickly without having to lean forward. At higher speeds, the rear carrier provides an extra mechanism and elevators and lifts help with quick handling.

Defiant will have a retractable landing system, reducing traction to allow higher speeds at greater efficiency, resulting in a greater distance. Its double rotor system will reduce leakage and stop leakage and Sikorsky also claims a "dramatically reduced acoustic signature". On the ground, the top rotors can be folded back, allowing for easy storage and transport.

When he enters the service, Defiant will wear a team of four and a cabin equipped for up to 12 troops ready for battle or eight medevac rifles.

It is in an assault configuration; there will be a variant of attack that shares a common transmission and many other systems, but it has a different fuselage and is more armed (Rulkov *et al*., 2016; Agarwala, 2016; Babayemi, 2016; Gusti and Semin, 2016; Mohamed *et al*., 2016; Wessels and Raad, 2016; Rajput *et al*., 2016; Rea and Ottaviano, 2016; Zurfi and Zhang, 2016a; 2016b; Zheng and Li, 2016; Buonomano *et al*., 2016a; 2016b; Faizal *et al*., 2016; Ascione *et al*., 2016; Elmeddahi *et al*., 2016; Calise *et al*., 2016; Morse *et al*., 2016; Abouobaida, 2016; Rohit and Dixit, 2016; Kazakov *et al*., 2016; Alwetaishi, 2016; Riccio *et al*., 2016a; 2016b; Iqbal, 2016; Hasan and El-Naas, 2016; Al-Hasan and Al-Ghamdi, 2016; Jiang *et al*., 2016; Sepúlveda, 2016; Martins *et al*., 2016; Pisello *et al*., 2016; Jarahi, 2016; Mondal *et al*., 2016; Mansour, 2016; Al Qadi *et al*., 2016b; Campo *et al*., 2016; Samantaray *et al*., 2016; Malomar *et al*., 2016; Rich and Badar, 2016; Hirun, 2016; Bucinell, 2016; Nabilou, 2016b; Barone *et al*., 2016; Chisari and Bedon, 2016; Bedon and Louter, 2016; dos Santos and Bedon, 2016; Minghini *et al*., 2016; Bedon, 2016; Jafari *et al*., 2016; Chiozzi *et al*., 2016; Orlando and Benvenuti, 2016; Wang and Yagi, 2016; Obaiys *et al*., 2016; Ahmed *et al*., 2016; Jauhari *et al*., 2016; Syahrullah and Sinaga, 2016; Shanmugam, 2016; Jaber and Bicker, 2016; Wang *et al*., 2016; Moubarek and Gharsallah, 2016; Amani, 2016; Shruti, 2016; Pérez-de León *et al*., 2016; Mohseni and Tsavdaridis, 2016; Abu-Lebdeh *et al*., 2016; Serebrennikov *et al*., 2016; Budak *et al*., 2016; Augustine *et al*., 2016; Jarahi and Seifilaleh, 2016; Nabilou, 2016a; You *et al*., 2016; AL Qadi *et al*., 2016a; Rama *et al*., 2016; Sallami *et al*., 2016; Huang *et al*., 2016; Ali *et al*., 2016; Kamble and Kumar, 2016; Saikia and Karak, 2016; Zeferino *et al*., 2016; Pravettoni *et al*., 2016; Bedon and Amadio, 2016; Chen and Xu, 2016; Mavukkandy *et al*., 2016; Yeargin *et al*., 2016; Madani and Dababneh, 2016; Alhasanat *et al*., 2016; Elliott *et al*., 2016; Suarez *et al*., 2016; Kuli *et al*., 2016; Waters *et al*., 2016; Montgomery *et al*., 2016; Lamarre *et al*., 2016; Petrescu, 2012b; Aversa *et al*., 2017a; 2017b; 2016a; 2016b; 2016c; 2016d; 2016e; 2016f; 2016g; 2016h; 2016i; 2016j; 2016k; 2016l; 2016m; 2016n; 2016o; Petrescu and Petrescu, 2016; 2015a; 2015b; 2015c; 2015d; 2015e; 2014a; 2014b; 2014c; 2014d; 2014e; 2014f; 2014g; 2014h; 2014i; 2013a; 2013b; 2013c; 2013d; 2013e; 2013f; 2013g; 2012; 2011; 2005a; 2005b; 2005c; 2005d; 2003; 2002a; 2002b; 2000a; 2000b; 1997a; 1997b; 1997c; 1995a; 1995b; Petrescu, 2018; 2015a; 2015b; 2012; Petrescu *et al*., 2016; 2017a; 2017b; 2017c; 2017d; 2018a; 2018b; 2018c; 2018d; Petrescu and Calautit, 2016a; 2016b; Daud *et al*., 2008; Taher *et al*., 2008; Zulkifli *et al*., 2008; Pourmahmoud, 2008; Pannirselvam *et al*., 2008; Ng *et al*., 2008; El-Tous, 2008; Akhesmeh *et al*., 2008; Nachiengtai *et al*., 2008; Moezi *et al*., 2008; Boucetta, 2008; Darabi *et al*., 2008; Semin and Bakar, 2008; Al-Abbas, 2009;

Abdullah *et al*., 2009; Abu-Ein, 2009; Opafunso *et al*., 2009; Semin *et al*., 2009a; 2009b; 2009c; Zulkifli *et al*., 2009; Ab-Rahman *et al*., 2009; Abdullah and Halim, 2009; Zotos and Costopoulos, 2009; Feraga *et al*., 2009; Bakar *et al*., 2009; Cardu *et al*., 2009; Bolonkin, 2009a; 2009b; Nandhakumar *et al*., 2009; Odeh *et al*., 2009; Lubis *et al*., 2009; Fathallah and Bakar, 2009; Marghany and Hashim, 2009; Kwon *et al*., 2010; Aly and Abuelnasr, 2010; Farahani *et al*., 2010; Ahmed *et al*., 2010; Kunanoppadon, 2010; Helmy and El-Taweel, 2010; Qutbodin, 2010; Pattanasethanon, 2010; Fen *et al*., 2011; Thongwan *et al*., 2011; Theansuwan and Triratanasirichai, 2011; Al Smadi, 2011; Tourab *et al*., 2011; Raptis *et al*., 2011; Momani *et al*., 2011; Ismail *et al*., 2011; Anizan *et al*., 2011; Tsolakis and Raptis, 2011; Abdullah *et al*., 2011; Kechiche *et al*., 2011; Ho *et al*., 2011; Rajbhandari *et al*., 2011; Aleksic and Lovric, 2011; Kaewnai and Wongwises, 2011; Idarwazeh, 2011; Ebrahim *et al*., 2012; Abdelkrim *et al*., 2012; Mohan *et al*., 2012; Abam *et al*., 2012; Hassan *et al*., 2012; Jalil and Sampe, 2013; Jaoude and El-Tawil, 2013; Ali and Shumaker, 2013; Zhao, 2013; El-Labban *et al*., 2013; Djalel *et al*., 2013; Nahas and Kozaitis, 2014).

Materials and Methods

You do not see helicopters like this every day.

Sikorsky and Boeing have reunited this time to build a new helicopter, able to quickly take off vertically, thus achieving a true ultra-fast lift, but also with great maneuverability, capabilities that will give it some advantages special in front of classical helicopters.

It can move easily in any direction, simultaneously with tilt maneuvers and with very fast attack and defense, regardless of the height it is found, being able to move permanently including the zigzag as we have shown already at even low altitudes, to which other helicopters do not have the courage to handle either side or the other, in order not to become unbalanced and fall out of the lack of altitude.

In other words, it is a beehive or a beehive bee that may, while struggling to carry out various operations including military, obviously of recognition, espionage, or attack even during confusing flight including low altitude, acceleration and large decelerations, with higher speeds than classic helicopters, which can double from them.

Fig. 1: Sikorsky-Boeing SB1 Defiant in his first demonstration flight

Sikorsky-Boeing SB1 Defiant in his first demonstration flight showed that it is much more than just a fancy design on paper as he could initially think, with a first relevant flight demonstration.

The initial flight lasted less than 30 minutes, enough time for Defiant to prove he can climb and descend easily, move back and forth and turn left and right with extraordinary ease and maneuverability (Fig. 1).

Companies have described this action as a low-speed flight maneuver and a short film has revealed that the helicopter can also operate in the area of about 10 to 20 meters of land successfully. His first start in the inaugural flight test was held at a Sikorsky airport in West Palm Beach, Florida.

SB1 Defiant has an unusual design that instantly conquers you. If most helicopters have one main rotor for vertical lifting, "Defiant" has a pair of coaxial rotors, one rotating clockwise and the other rotating trigonometrically (counterclockwise) to achieve a balancing the dynamics of the couple - that is, to prevent it from overturning one side or another. This means that the aircraft no longer needs the standard rotor at the helicopter tail. Instead, it has a new, distinctive, rear-wheel drive, which has the role of getting "Defiant's zoom" along the high-speed horizontal flight.

"Defiant" is designed to fly at almost twice the speed of classic helicopters while maintaining the best low speed and hover performance of conventional helicopters.

Coaxial design can also be found in some Russian military helicopters but without a propeller. Sikorsky used the project earlier (with the propeller) in the experimental X2 helicopter and the next S-97 Raider.

The Defiant Project is considered by the United States Army for the Future Lift Vertical program, which intends to find a replacement for many of the US military helicopters used today (Finally, as in the early 2030s, where Defiant's rival in that area is the Bell V-280 Valor, which is not a helicopter, but rather a V-22 Osprey-like tiller-like aircraft used by US marines. The V-280 has been able to improve flight quality since its first flight in December 2017).

The Sikorsky-Boeing team will then analyze the flight data recorder and film on this first demonstration flight with the aim of establishing a plan for several "Defiant" test flights in the coming weeks and months to confirm other important features of the new helicopter, before making a complete presentation, for massive future production orders.

Results

Defiant is designed to fly at nearly twice the speed and has twice the range of conventional helicopters while retaining the very best, if not better low-speed and hover performance of conventional helicopters... This design provides for exceptional performance in the objective area, where potential enemy activity places a premium on maneuverability, survivability and flexibility. We are thrilled with the results of today's flight and look forward to an exciting flight test program.

Defiant is a further extrapolation of Sikorsky's X2 technology demonstrator, which pioneered its unique configuration. The S-97 Raider, an armed reconnaissance coaxial-rotor compound helicopter that the company also derived from the X2 concept and has helped further inform the development of the SB1, has been flying for years now and two prototypes are currently in testing. Lockheed Martin has since purchased Sikorsky, but it continues to operate under that name and as a separate business unit.

The Defiant and the Valor are set to go head to head as part of the Army's Joint Multi-Role (JMR) technology demonstration program. The service had hoped to begin these flight tests in December 2017 but pushed its timeline back due to the delays with the SB1.

The Army plans to use the results from JMR to help better understand and define the Future Vertical Lift (FVL) program requirements. The SB>1 and V-280, or refined versions of these designs, will be heading for a brawl over the "medium" portion of that project, which aims to replace hundreds of UH-60 Black Hawks and AH-64 Apaches. The Sikorsky-Boeing team plans to pitch the Defiant as a successor to the Black Hawks and has shown a companion gunship design as the Apache replacement.

Discussion

Sikorsky and Boeing have long been working on this high-speed military helicopter project and have released the first images of what is expected to become a very efficient utility helicopter of the United States Army sometime in 2030.

SB1 Defiant is a technology demonstrator with Future Lift technology, built around the Sikorsky X2 platform, using two counter-rotating blades at the top of the plane to eliminate the problem of a 150 km/h traction rotor (~ 240 km/h).

Simply placing it in a stable hover without wind, a helicopter tip blade generates an equal amount of lifting of its entire rotation around the central axis. But when you begin to move through the air, the blade starts to develop an extra height on the side where the blades hurry forward in the wind and rise less on the opposite side, where the blades turn with the wind. This can become so unbalanced that it threatens to defy the helicopter altogether if you do not stay at a defined maximum air speed.

Sikorsky technology places two main rotors one above the other, rotating in opposite directions, balancing the lift profile on both sides and allowing the ship to fly much faster - up to twice the speed of a regular helicopter - agility.

It also eliminates the need for a rotor because the rotation can only be managed with top rotors. SB1 Defiant uses a propeller to the rear, along with active hooks and lifts. At take-off, this means that the aircraft can rise and move quickly without having to lean forward. At higher speeds, the rear carrier provides an extra mechanism and elevators and lifts help with quick handling.

Defiant will have a retractable landing system, reducing traction to allow higher speeds at greater efficiency, resulting in a greater distance. Its double rotor system will reduce leakage and stop leakage and Sikorsky also claims a "dramatically reduced acoustic signature". On the ground, the top rotors can be folded back, allowing for easy storage and transport.

When he enters the service, Defiant will wear a team of four and a cabin equipped for up to 12 troops ready for battle or eight medevac rifles. It is in an assault configuration; there will be a variant of attack that shares a common transmission and many other systems, but it has a different fuselage and is more armed.

Conclusion

Sikorsky and Boeing have reunited this time to build a new helicopter, able to quickly take off vertically, thus achieving a true ultra-fast lift, but also with great maneuverability, capabilities that will give it some advantages special in front of classical helicopters.

It can move easily in any direction, simultaneously with tilt maneuvers and with very fast attack and defense, regardless of the height it is found, being able to move permanently including the zigzag as we have shown already at even low altitudes, to which other helicopters do not have the courage to handle either side or the other, in order not to become unbalanced and fall out of the lack of altitude. In other words, it is a beehive or a beehive bee that may, while struggling to carry out various operations including military, obviously of recognition, espionage, or attack even during confusing flight including low altitude, acceleration and large decelerations, with higher speeds than classic helicopters, which can double from them.

Sikorsky and Boeing have long been working on this high-speed military helicopter project and have released the first images of what is expected to become a very efficient utility helicopter of the United States Army sometime in 2030.

SB1 Defiant is a technology demonstrator with Future Lift technology, built around the Sikorsky X2 platform, using two counter-rotating blades at the top of the plane to eliminate the problem of a 150 km/h traction rotor (~ 240 km/h).

Acknowledgement

The work was appreciated by teams of professors from the departments of automobiles from several universities in Romania and Italy. This text was acknowledged and appreciated by Associate Professor Aniello Riccio SECONDA UNIVERSITA' DEGLI STUDI DI NAPOLI Italy, whom we thanks and in this way.

Funding Information

Research contract: Contract number 36-5-4D/1986 from 24IV1985, beneficiary CNST RO (Romanian National Center for Science and Technology) Improving dynamic mechanisms internal combustion engines. All these matters are copyrighted. Copyrights: 548-cgiywDssin, from: 22-04-2010, 08:48:48.

Ethics

Author declares that are not ethical issues that may arise after the publication of this manuscript. This article is original and contains unpublished material.

References

Ab-Rahman, M.S., H. Guna, MH. Harun, SD. Zan and K. Jumari, 2009. Cost-effective fabrication of self-made 1×12 polymer optical fiber-based optical splitters for automotive application. Am. J. Eng. Applied Sci., 2: 252-259. DOI: 10.3844/ajeassp.2009.252.259

Abam, F.I., I.U. Ugot and D.I. Igbong, 2012. Performance analysis and components irreversibilities of a (25 MW) gas turbine power plant modeled with a spray cooler. Am. J. Eng. Applied Sci., 5: 35-41. DOI: 10.3844/ajeassp.2012.35.41

Abdelkrim, H., S.B. Othman, A.K.B. Salem and S.B. Saoud, 2012. Dynamic partial reconfiguration contribution on system on programmable chip architecture for motor drive implementation. Am. J. Eng. Applied Sci., 5: 15-24. DOI: 10.3844/ajeassp.2012.15.24

Abdullah, M.Z., A. Saat and Z. Hamzah, 2011. Optimization of energy dispersive x-ray fluorescence spectrometer to analyze heavy metals in moss samples. Am. J. Eng. Applied Sci., 4: 355-362. DOI: 10.3844/ajeassp.2011.355.362

Abdullah, M., A. F.M. Zain, Y. H. Ho and S. Abdullah, 2009. TEC and scintillation study of equatorial ionosphere: A month campaign over sipitang and parit raja stations, Malaysia. Am. J. Eng. Applied Sci., 2: 44-49. DOI: 10.3844/ajeassp.2009.44.49

Abdullah, H. and S.A. Halim, 2009. Electrical and magnetoresistive studies Nd doped on La-Ba-Mn-O_3 manganites for low-field sensor application. Am. J. Eng. Applied Sci., 2: 297-303. DOI: 10.3844/ajeassp.2009.297.303

Abouobaida, H., 2016. Robust and efficient controller to design a standalone source supplied DC and AC load powered by photovoltaic generator. Am. J. Eng. Applied Sci., 9: 894-901. DOI: 10.3844/ajeassp.2016.894.901

Abu-Ein, S., 2009. Numerical and analytical study of exhaust gases flow in porous media with applications to diesel particulate filters. Am. J. Eng. Applied Sci., 2: 70-75. DOI: 10.3844/ajeassp.2009.70.75

Abu-Lebdeh, T.M., G. Pérez-de León, S.A. Hamoush, R.D. Seals and V.E. Lamberti, 2016. Gas atomization of molten metal: Part II. Applications. Am. J. Eng. Applied Sci., 9: 334-349. DOI: 10.3844/ajeassp.2016.334.349

Agarwala, S., 2016. A perspective on 3D bioprinting technology: Present and future. Am. J. Eng. Applied Sci., 9: 985-990. DOI: 10.3844/ajeassp.2016.985.990

Ahmed, M., R. Khan, M. Billah and S. Farhana, 2010. A novel navigation algorithm for hexagonal hexapod robot. Am. J. Eng. Applied Sci., 3: 320-327. DOI: 10.3844/ajeassp.2010.320.327

Ahmed, R., M. Khan, H. Haque and H. Rahman, 2016. An approach to develop a dynamic job shop scheduling by fuzzy rule-based system and comparative study with the traditional priority rules. Am. J. Eng. Applied Sci., 9: 202-212. DOI: 10.3844/ajeassp.2016.202.212

Akhesmeh, S., N. Pourmahmoud and H. Sedgi, 2008. Numerical study of the temperature separation in the ranque-hilsch vortex tube. Am. J. Eng. Applied Sci., 1: 181-187. DOI: 10.3844/ajeassp.2008.181.187

Al-Abbas, I.K., 2009. Reduced order models of a current source inverter induction motor drive. Am. J. Eng. Applied Sci., 2: 39-43. DOI: 10.3844/ajeassp.2009.39.43

Al-Hasan, M.I. and A.S. Al-Ghamdi, 2016. Energy balance for a diesel engine operates on a pure biodiesel, diesel fuel and biodiesel-diesel blends. Am. J. Eng. Applied Sci., 9: 458-465. DOI: 10.3844/ajeassp.2016.458.465

Al Smadi, T.A., 2011. Low cost smart sensor design. Am. J. Eng. Applied Sci., 4: 162-168. DOI: 10.3844/ajeassp.2011.162.168

AL Qadi, A.N.S., M.B.A. ALhasanat, A. AL Dahamsheh and S. AL Zaiydneen, 2016a. Using of box-benken method to predict the compressive strength of self-compacting concrete containing Wadi Musa Bentonite, Jordan. Am. J. Eng. Applied Sci., 9: 406-411. DOI: 10.3844/ajeassp.2016.406.411

Al Qadi, A.N.S., M.B.A. Alhasanat and M. Haddad, 2016b. Effect of crumb rubber as coarse and fine aggregates on the properties of asphalt concrete. Am. J. Eng. Applied Sci., 9: 558-564. DOI: 10.3844/ajeassp.2016.558.564

Aleksic, S. and A. Lovric, 2011. Energy consumption and environmental implications of wired access networks. Am. J. Eng. Applied Sci., 4: 531-539. DOI: 10.3844/ajeassp.2011.531.539

Alhasanat, M.B., A.N. Al Qadi, O.A. Al Khashman and A. Dahamsheh, 2016. Scanning electron microscopic evaluation of self-compacting concrete spalling at elevated temperatures. Am. J. Eng. Applied Sci., 9: 119-127. DOI: 10.3844/ajeassp.2016.119.127

Ali, K.S. and J.L. Shumaker, 2013. Hardware in the loop simulator for multi-agent unmanned aerial vehicles environment. Am. J. Eng. Applied Sci., 6: 172-177. DOI: 10.3844/ajeassp.2013.172.177

Ali, G.A.M., O. Fouad and S.A. Makhlouf, 2016. Electrical properties of cobalt oxide/silica nanocomposites obtained by sol-gel technique. Am. J. Eng. Applied Sci., 9: 12-16. DOI: 10.3844/ajeassp.2016.12.16

Alwetaishi, M.S., 2016. Impact of building function on thermal comfort: A review paper. Am. J. Eng. Applied Sci., 9: 928-945. DOI: 10.3844/ajeassp.2016.928.945

Aly, W.M. and M.S. Abuelnasr, 2010. Electronic design automation using object oriented electronics. Am. J. Eng. Applied Sci., 3: 121-127. DOI: 10.3844/ajeassp.2010.121.127

Amani, N., 2016. Design and implementation of optimum management system using cost evaluation and financial analysis for prevention of building failure. Am. J. Eng. Applied Sci., 9: 281-296. DOI: 10.3844/ajeassp.2016.281.296

Anizan, S., K. Yusri, C.S. Leong, N. Amin and S. Zaidi *et al*., 2011. Effects of the contact resistivity variations of the screen-printed silicon solar cell. Am. J. Eng. Applied Sci., 4: 328-331. DOI: 10.3844/ajeassp.2011.328.331

Ascione, F., N. Bianco, R.F. De Masi, F. de Rossi and C. De Stasio *et al*., 2016. Energy audit of health care facilities: Dynamic simulation of energy performances and energy-oriented refurbishment of system and equipment for microclimatic control. Am. J. Eng. Applied Sci., 9: 814-834. DOI: 10.3844/ajeassp.2016.814.834

Augustine, A., R.D. Prakash, R. Xavier and M.C. Parassery, 2016. Review of signal processing techniques for detection of power quality events. Am. J. Eng. Applied Sci., 9: 364-370. DOI: 10.3844/ajeassp.2016.364.370

Aversa, R., R.V.V. Petrescu, A. Apicella and F.I.T. Petrescu, 2017a. Nano-diamond hybrid materials for structural biomedical application. Am. J. Biochem. Biotechnol., 13: 34-41. DOI: 10.3844/ajbbsp.2017.34.41

Aversa, R., D. Parcesepe, R.V.V. Petrescu, F. Berto and G. Chen *et al*., 2017b. Process ability of bulk metallic glasses. Am. J. Applied Sci., 14: 294-301. DOI: 10.3844/ajassp.2017.294.301

Aversa, R., F.I.T. Petrescu, R.V. Petrescu and A. Apicella, 2016a. Biomimetic FEA bone modeling for customized hybrid biological prostheses development. Am. J. Applied Sci., 13: 1060-1067. DOI: 10.3844/ajassp.2016.1060.1067

Aversa, R., D. Parcesepe, R.V. Petrescu, G. Chen and F.I.T. Petrescu *et al*., 2016b. Glassy amorphous metal injection molded induced morphological defects. Am. J. Applied Sci., 13: 1476-1482. DOI: 10.3844/ajassp.2016.1476.1482

Aversa, R., R.V. Petrescu, F.I.T. Petrescu and A. Apicella, 2016c. Smart-factory: Optimization and process control of composite centrifuged pipes. Am. J. Applied Sci., 13: 1330-1341. DOI: 10.3844/ajassp.2016.1330.1341

Aversa, R., F. Tamburrino, R.V. Petrescu, F.I.T. Petrescu and M. Artur *et al*., 2016d. Biomechanically inspired shape memory effect machines driven by muscle like acting NiTi alloys. Am. J. Applied Sci., 13: 1264-1271. DOI: 10.3844/ajassp.2016.1264.1271

Aversa, R., E.M. Buzea, R.V. Petrescu, A. Apicella and M. Neacsa *et al*., 2016e. Present a mechatronic system having able to determine the concentration of carotenoids. Am. J. Eng. Applied Sci., 9: 1106-1111. DOI: 10.3844/ajeassp.2016.1106.1111

Aversa, R., R.V. Petrescu, R. Sorrentino, F.I.T. Petrescu and A. Apicella, 2016f. Hybrid ceramo-polymeric nanocomposite for biomimetic scaffolds design and preparation. Am. J. Eng. Applied Sci., 9: 1096-1105. DOI: 10.3844/ajeassp.2016.1096.1105

Aversa, R., V. Perrotta, R.V. Petrescu, C. Misiano and F.I.T. Petrescu *et al*., 2016g. From structural colors to super-hydrophobicity and achromatic transparent protective coatings: Ion plating plasma assisted TiO_2 and SiO_2 Nano-film deposition. Am. J. Eng. Applied Sci., 9: 1037-1045. DOI: 10.3844/ajeassp.2016.1037.1045

Aversa, R., R.V. Petrescu, F.I.T. Petrescu and A. Apicella, 2016h. Biomimetic and evolutionary design driven innovation in sustainable products development. Am. J. Eng. Applied Sci., 9: 1027-1036. DOI: 10.3844/ajeassp.2016.1027.1036

Aversa, R., R.V. Petrescu, A. Apicella and F.I.T. Petrescu, 2016i. Mitochondria are naturally micro robots-a review. Am. J. Eng. Applied Sci., 9: 991-1002.

Aversa, R., R.V. Petrescu, A. Apicella and F.I.T. Petrescu, 2016j. We are addicted to vitamins C and E-A review. Am. J. Eng. Applied Sci., 9: 1003-1018. DOI: 10.3844/ajeassp.2016.1003.1018

Aversa, R., R.V. Petrescu, A. Apicella and F.I.T. Petrescu, 2016k. Physiologic human fluids and swelling behavior of hydrophilic biocompatible hybrid ceramo-polymeric materials. Am. J. Eng. Applied Sci., 9: 962-972. DOI: 10.3844/ajeassp.2016.962.972

Aversa, R., R.V. Petrescu, A. Apicella and F.I.T. Petrescu, 2016l. One can slow down the aging through antioxidants. Am. J. Eng. Applied Sci., 9: 1112-1126. DOI: 10.3844/ajeassp.2016.1112.1126

Aversa, R., R.V. Petrescu, A. Apicella and F.I.T. Petrescu, 2016m. About homeopathy or ≪Similia similibus curentur≫. Am. J. Eng. Applied Sci., 9: 1164-1172. DOI: 10.3844/ajeassp.2016.1164.1172

Aversa, R., R.V. Petrescu, A. Apicella and F.I.T. Petrescu, 2016n. The basic elements of life's. Am. J. Eng. Applied Sci., 9: 1189-1197. DOI: 10.3844/ajeassp.2016.1189.1197

Aversa, R., F.I.T. Petrescu, R.V. Petrescu and A. Apicella, 2016o. Flexible stem trabecular prostheses. Am. J. Eng. Applied Sci., 9: 1213-1221. DOI: 10.3844/ajeassp.2016.1213.1221

Babayemi, A.K., 2016. Thermodynamics, non-linear isotherms, statistical modeling and optimization of phosphorus adsorption from wastewater. Am. J. Eng. Applied Sci., 9: 1019-1026. DOI: 10.3844/ajeassp.2016.1019.1026

Bakar, R.A., M.K. Mohammed and M.M. Rahman, 2009. Numerical study on the performance characteristics of hydrogen fueled port injection internal combustion engine. Am. J. Eng. Applied Sci., 2: 407-415. DOI: 10.3844/ajeassp.2009.407.415

Barone, G., A. Buonomano, C. Forzano and A. Palombo, 2016. WLHP systems in commercial buildings: A case study analysis based on a dynamic simulation approach. Am. J. Eng. Applied Sci., 9: 659-668. DOI: 10.3844/ajeassp.2016.659.668

Bedon, C., 2016. Review on the use of FRP composites for facades and building skins. Am. J. Eng. Applied Sci., 9: 713-723. DOI: 10.3844/ajeassp.2016.713.723

Bedon, C. and C. Amadio, 2016. A unified approach for the shear buckling design of structural glass walls with non-ideal restraints. Am. J. Eng. Applied Sci., 9: 64-78. DOI: 10.3844/ajeassp.2016.64.78

Bedon, C. and C. Louter, 2016. Finite-element numerical simulation of the bending performance of post-tensioned structural glass beams with adhesively bonded CFRP tendons. Am. J. Eng. Applied Sci., 9: 680-691. DOI: 10.3844/ajeassp.2016.680.691

Bolonkin, A., 2009a. Femtotechnology: Nuclear matter with fantastic properties. Am. J. Eng. Applied Sci., 2: 501-514. DOI: 10.3844/ajeassp.2009.501.514

Bolonkin, A., 2009b. Converting of matter to nuclear energy by ab-generator. Am. J. Eng. Applied Sci., 2: 683-693. DOI: 10.3844/ajeassp.2009.683.693

Boucetta, A., 2008. Vector control of a variable reluctance machine stator and rotor discs imbricates. Am. J. Eng. Applied Sci., 1: 260-265. DOI: 10.3844/ajeassp.2008.260.265

Bucinell, R.B., 2016. Stochastic model for variable amplitude fatigue induced delamination growth in graphite/epoxy laminates. Am. J. Eng. Applied Sci., 9: 635-646. DOI: 10.3844/ajeassp.2016.635.646

Budak, S., Z. Xiao, B. Johnson, J. Cole and M. Drabo *et al*., 2016. Highly-efficient advanced thermoelectric devices from different multilayer thin films. Am. J. Eng. Applied Sci., 9: 356-363. DOI: 10.3844/ajeassp.2016.356.363

Buonomano, A., F. Calise and M. Vicidomini, 2016a. A novel prototype of a small-scale solar power plant: Dynamic simulation and thermoeconomic analysis. Am. J. Eng. Applied Sci., 9: 770-788. DOI: 10.3844/ajeassp.2016.770.788

Buonomano, A., F. Calise, M.D. d'Accadia, R. Vanoli and M. Vicidomini, 2016b. Simulation and experimental analysis of a demonstrative solar heating and cooling plant installed in Naples (Italy). Am. J. Eng. Applied Sci., 9: 798-813. DOI: 10.3844/ajeassp.2016.798.813

Calise, F., M.D. dâ' Accadia, L. Libertini, E. Quiriti and M. Vicidomini, 2016. Dynamic simulation and optimum operation strategy of a trigeneration system serving a hospital. Am. J. Eng. Applied Sci., 9: 854-867. DOI: 10.3844/ajeassp.2016.854.867

Campo, T., M. Cotto, F. Marquez, E. Elizalde and C. Morant, 2016. Graphene synthesis by plasma-enhanced CVD growth with ethanol. Am. J. Eng. Applied Sci., 9: 574-583. DOI: 10.3844/ajeassp.2016.574.583

Cardu, M., P. Oreste and T. Cicala, 2009. Analysis of the tunnel boring machine advancement on the Bologna-Florence railway link. Am. J. Eng. Applied Sci., 2: 416-420. DOI: 10.3844/ajeassp.2009.416.420

Chen, G. and L. Xu, 2016. A general strategy to enhance upconversion luminescence in rare-earth-ion-doped oxide nanocrystals. Am. J. Eng. Applied Sci., 9: 79-83. DOI: 10.3844/ajeassp.2016.79.83

Chiozzi, A., G. Milani, N. Grillanda and A. Tralli, 2016. An adaptive procedure for the limit analysis of FRP reinforced masonry vaults and applications. Am. J. Eng. Applied Sci., 9: 735-745. DOI: 10.3844/ajeassp.2016.735.745

Chisari, C. and C. Bedon, 2016. Multi-objective optimization of FRP jackets for improving the seismic response of reinforced concrete frames. Am. J. Eng. Applied Sci., 9: 669-679. DOI: 10.3844/ajeassp.2016.669.679

Darabi, A., S.A. Soleamani and A. Hassannia, 2008. Fuzzy based digital automatic voltage regulator of a synchronous generator with unbalanced loads. Am. J. Eng. Applied Sci., 1: 280-286. DOI: 10.3844/ajeassp.2008.280.286

Daud, H., N. Yahya, A.A. Aziz and M.F. Jusoh, 2008. Development of wireless electric concept powering electrical appliances. Am. J. Eng. Applied Sci., 1: 12-15. DOI: 10.3844/ajeassp.2008.12.15

dos Santos, F.A. and C. Bedon, 2016. Preliminary experimental and finite-element numerical assessment of the structural performance of SMA-reinforced GFRP systems. Am. J. Eng. Applied Sci., 9: 692-701. DOI: 10.3844/ajeassp.2016.692.701

Djalel, D., M. Mourad and H. Labar, 2013. New approach of electromagnetic fields of the lightning discharge. Am. J. Eng. Applied Sci., 6: 369-383. DOI: 10.3844/ajeassp.2013.369.383

Ebrahim, N.A., S. Ahmed, S.H.A. Rashid and Z. Taha, 2012. Technology use in the virtual R&D teams. Am. J. Eng. Applied Sci., 5: 9-14. DOI: 10.3844/ajeassp.2012.9.14

El-Labban, H.F., M. Abdelaziz and E.R.I. Mahmoud, 2013. Modification of carbon steel by laser surface melting: Part I: Effect of laser beam travelling speed on microstructural features and surface hardness. Am. J. Eng. Applied Sci., 6: 352-359. DOI: 10.3844/ajeassp.2013.352.359

Elliott, A., S. AlSalihi, A.L. Merriman and M.M. Basti, 2016. Infiltration of nanoparticles into porous binder jet printed parts. Am. J. Eng. Applied Sci., 9: 128-133. DOI: 10.3844/ajeassp.2016.128.133

Elmeddahi, Y., H. Mahmoudi, A. Issaadi, M.F.A. Goosen and R. Ragab, 2016. Evaluating the effects of climate change and variability on water resources: A case study of the cheliff basin in Algeria. Am. J. Eng. Applied Sci., 9: 835-845. DOI: 10.3844/ajeassp.2016.835.845

El-Tous, Y., 2008. Pitch angle control of variable speed wind turbine. Am. J. Eng. Applied Sci., 1: 118-120. DOI: 10.3844/ajeassp.2008.118.120

Faizal, A., S. Mulyono, R. Yendra and A. Fudholi, 2016. Design Maximum Power Point Tracking (MPPT) on photovoltaic panels using fuzzy logic method. Am. J. Eng. Applied Sci., 9: 789-797. DOI: 10.3844/ajeassp.2016.789.797

Farahani, A.S., N.M. Adam and M.K.A. Ariffin, 2010. Simulation of airflow and aerodynamic forces acting on a rotating turbine ventilator. Am. J. Eng. Applied Sci., 3: 159-170. DOI: 10.3844/ajeassp.2010.159.170

Fathallah, A.Z.M. and R.A. Bakar, 2009. Prediction studies for the performance of a single cylinder high speed spark ignition linier engine with spring mechanism as return cycle. Am. J. Eng. Applied Sci., 2: 713-720. DOI: 10.3844/ajeassp.2009.713.720

Fen, Y.W., W.M.M. Yunus, M.M. Moksin, Z.A. Talib and N.A. Yusof, 2011. Optical properties of crosslinked chitosan thin film with glutaraldehyde using surface Plasmon resonance technique. Am. J. Eng. Applied Sci., 4: 61-65. DOI: 10.3844/ajeassp.2011.61.65

Feraga, C.E., A. Moussaoui, A. Bouldjedri and A. Yousfi, 2009. Robust position controller for a permanent magnet synchronous actuator. Am. J. Eng. Applied Sci., 2: 388-392. DOI: 10.3844/ajeassp.2009.388.392

Gusti, A.P. and Semin, 2016. The effect of vessel speed on fuel consumption and exhaust gas emissions. Am. J. Eng. Applied Sci., 9: 1046-1053. DOI: 10.3844/ajeassp.2016.1046.1053

Hassan, M., H. Mahjoub and M. Obed, 2012. Voice-based control of a DC servo motor. Am. J. Eng. Applied Sci., 5: 89-92. DOI: 10.3844/ajeassp.2012.89.92

Hasan, S. and M.H. El-Naas, 2016. Optimization of a combined approach for the treatment of carbide slurry and capture of CO_2. Am. J. Eng. Applied Sci., 9: 449-457. DOI: 10.3844/ajeassp.2016.449.457

Helmy, A.K. and G.S. El-Taweel, 2010. Neural network change detection model for satellite images using textural and spectral characteristics. Am. J. Eng. Applied Sci., 3: 604-610. DOI: 10.3844/ajeassp.2010.604.610

Hirun, W., 2016. Evaluation of interregional freight generation modelling methods by using nationwide commodity flow survey data. Am. J. Eng. Applied Sci., 9: 625-634. DOI: 10.3844/ajeassp.2016.625.634

Ho, C.Y.F., B.W.K. Ling, S.G. Blasi, Z.W. Chi and W.C. Siu, 2011. Single step optimal block matched motion estimation with motion vectors having arbitrary pixel precisions. Am. J. Eng. Applied Sci., 4: 448-460. DOI: 10.3844/ajeassp.2011.448.460

Huang, B., S.H. Masood, M. Nikzad, P.R. Venugopal and A. Arivazhagan, 2016. Dynamic mechanical properties of fused deposition modelling processed polyphenylsulfone material. Am. J. Eng. Applied Sci., 9: 1-11. DOI: 10.3844/ajeassp.2016.1.11

Idarwazeh, S., 2011. Inverse discrete Fourier transform-discrete Fourier transform techniques for generating and receiving spectrally efficient frequency division multiplexing signals. Am. J. Eng. Applied Sci., 4: 598-606. DOI: 10.3844/ajeassp.2011.598.606

Iqbal, M., 2016. An overview of Energy Loss Reduction (ELR) software used in Pakistan by WAPDA for calculating transformer overloading, line losses and energy losses. Am. J. Eng. Applied Sci., 9: 442-448. DOI: 10.3844/ajeassp.2016.442.448

Ismail, M.I.S., Y. Okamoto, A. Okada and Y. Uno, 2011. Experimental investigation on micro-welding of thin stainless steel sheet by fiber laser. Am. J. Eng. Applied Sci., 4: 314-320. DOI: 10.3844/ajeassp.2011.314.320

Jaber, A.A. and R. Bicker, 2016. Industrial robot fault detection based on statistical control chart. Am. J. Eng. Applied Sci., 9: 251-263. DOI: 10.3844/ajeassp.2016.251.263

Jafari, N., A. Alsadoon, C.P. Withana, A. Beg and A. Elchouemi, 2016. Designing a comprehensive security framework for smartphones and mobile devices. Am. J. Eng. Applied Sci., 9: 724-734. DOI: 10.3844/ajeassp.2016.724.734

Jalil, M.I.A. and J. Sampe, 2013. Experimental investigation of thermoelectric generator modules with different technique of cooling system. Am. J. Eng. Applied Sci., 6: 1-7. DOI: 10.3844/ajeassp.2013.1.7

Jaoude, A.A. and K. El-Tawil, 2013. Analytic and nonlinear prognostic for vehicle suspension systems. Am. J. Eng. Applied Sci., 6: 42-56. DOI: 10.3844/ajeassp.2013.42.56

Jarahi, H., 2016. Probabilistic seismic hazard deaggregation for Karaj City (Iran). Am. J. Eng. Applied Sci., 9: 520-529. DOI: 10.3844/ajeassp.2016.520.529

Jarahi, H. and S. Seifilaleh, 2016. Rock fall hazard zonation in haraz highway. Am. J. Eng. Applied Sci., 9: 371-379. DOI: 10.3844/ajeassp.2016.371.379

Jauhari, K., A. Widodo and I. Haryanto, 2016. Identification of a machine tool spindle critical frequency through modal and imbalance response analysis. Am. J. Eng. Applied Sci., 9: 213-221. DOI: 10.3844/ajeassp.2016.213.221

Jiang, J., Q. Chen and S. Nimbalkar, 2016. Field data based method for predicting long-term settlements. Am. J. Eng. Applied Sci., 9: 466-476. DOI: 10.3844/ajeassp.2016.466.476

Kaewnai, S. and S. Wongwises, 2011. Improvement of the runner design of Francis turbine using computational fluid dynamics. Am. J. Eng. Applied Sci., 4: 540-547. DOI: 10.3844/ajeassp.2011.540.547

Kamble, V.G. and N. Kumar, 2016. Fabrication and tensile property analysis of polymer matrix composites of graphite and silicon carbide as fillers. Am. J. Eng. Applied Sci., 9: 17-30. DOI: 10.3844/ajeassp.2016.17.30

Kazakov, V.V., V.I. Yusupov, V.N. Bagratashvili, A.I. Pavlikov and V.A. Kamensky, 2016. Control of bubble formation at the optical fiber tip by analyzing ultrasound acoustic waves. Am. J. Eng. Applied Sci., 9: 921-927. DOI: 10.3844/ajeassp.2016.921.927

Kechiche, O.B.H.B., H.B.A. Sethom, H. Sammoud and I.S. Belkhodja, 2011. Optimized high-frequency signal injection based permanent magnet synchronous motor rotor position estimation applied to washing machines. Am. J. Eng. Applied Sci., 4: 390-399. DOI: 10.3844/ajeassp.2011.390.399

Kuli, I., T.M. Abu-Lebdeh, E.H. Fini and S.A. Hamoush, 2016. The use of nano-silica for improving mechanical properties of hardened cement paste. Am. J. Eng. Applied Sci., 9: 146-154. DOI: 10.3844/ajeassp.2016.146.154

Kunanoppadon, J., 2010. Thermal efficiency of a combined turbocharger set with gasoline engine. Am. J. Eng. Applied Sci., 3: 342-349. DOI: 10.3844/ajeassp.2010.342.349

Kwon, S., Y. Tani, H. Okubo and T. Shimomura, 2010. Fixed-star tracking attitude control of spacecraft using single-gimbal control moment gyros. Am. J. Eng. Applied Sci., 3: 49-55. DOI: 10.3844/ajeassp.2010.49.55

Lamarre, A., E.H. Fini and T.M. Abu-Lebdeh, 2016. Investigating effects of water conditioning on the adhesion properties of crack sealant. Am. J. Eng. Applied Sci., 9: 178-186. DOI: 10.3844/ajeassp.2016.178.186

Lubis, Z., A.N. Abdalla, Mortaza and R. Ghon, 2009. Mathematical modeling of the three phase induction motor couple to DC motor in hybrid electric vehicle. Am. J. Eng. Applied Sci., 2: 708-712. DOI: 10.3844/ajeassp.2009.708.712

Madani, D.A.L. and A. Dababneh, 2016. Rapid entire body assessment: A literature review. Am. J. Eng. Applied Sci., 9: 107-118. DOI: 10.3844/ajeassp.2016.107.118

Malomar, G.E.B., A. Gueye, C. Mbow, V.B. Traore and A.C. Beye, 2016. Numerical study of natural convection in a square porous cavity thermally modulated on both side walls. Am. J. Eng. Applied Sci., 9: 591-598. DOI: 10.3844/ajeassp.2016.591.598

Mansour, M.A.A., 2016. Developing an anthropometric database for Saudi students and comparing Saudi dimensions relative to Turkish and Iranian peoples. Am. J. Eng. Applied Sci., 9: 547-557. DOI: 10.3844/ajeassp.2016.547.557

Marghany, M. and M. Hashim, 2009. Robust of doppler centroid for mapping sea surface current by using radar satellite data. Am. J. Eng. Applied Sci., 2: 781-788. DOI: 10.3844/ajeassp.2009.781.788

Martins, F.R., A.R. Gonçalves and E.B. Pereira, 2016. Observational study of wind shear in Northeastern Brazil. Am. J. Eng. Applied Sci., 9: 484-504. DOI: 10.3844/ajeassp.2016.484.504

Mavukkandy, M.O., S. Chakraborty, T. Abbasi and S.A. Abbasi, 2016. A clean-green synthesis of platinum nanoparticles utilizing a pernicious weed lantana (Lantana Camara). Am. J. Eng. Applied Sci., 9: 84-90. DOI: 10.3844/ajeassp.2016.84.90

Minghini, F., N. Tullini and F. Ascione, 2016. Updating Italian design guide CNR DT-205/2007 in view of recent research findings: Requirements for pultruded FRP profiles. Am. J. Eng. Applied Sci., 9: 702-712. DOI: 10.3844/ajeassp.2016.702.712

Moezi, N., D. Dideban and A. Ketabi, 2008. A novel integrated SET based inverter for nano power electronic applications. Am. J. Eng. Applied Sci., 1: 219-222. DOI: 10.3844/ajeassp.2008.219.222

Mohamed, M.A., A.Y. Tuama, M. Makhtar, M.K. Awang and M. Mamat, 2016. The effect of RSA exponential key growth on the multi-core computational resource. Am. J. Eng. Applied Sci., 9: 1054-1061. DOI: 10.3844/ajeassp.2016.1054.1061

Mohan, K.S.R., P. Jayabalan and A. Rajaraman, 2012. Properties of fly ash based coconut fiber composite. Am. J. Eng. Applied Sci., 5: 29-34. DOI: 10.3844/ajeassp.2012.29.34

Mohseni, E. and K.D. Tsavdaridis, 2016. Effect of nano-alumina on pore structure and durability of class F fly ash self-compacting mortar. Am. J. Eng. Applied Sci., 9: 323-333. DOI: 10.3844/ajeassp.2016.323.333

Momani, M.A., T.A. Al Smadi, FM. Al Taweel and K.A. Ghaidan, 2011. GPS ionospheric total electron content and scintillation measurements during the October 2003 magnetic storm. Am. J. Eng. Applied Sci., 4: 301-306. DOI: 10.3844/ajeassp.2011.301.306

Mondal, R., S. Sahoo and C.S. Rout, 2016. Mixed nickel cobalt manganese oxide nanorods for supercapacitor application. Am. J. Eng. Applied Sci., 9: 540-546. DOI: 10.3844/ajeassp.2016.540.546

Montgomery, J., T.M. Abu-Lebdeh, S.A. Hamoush and M. Picornell, 2016. Effect of nano-silica on the compressive strength of harden cement paste at different stages of hydration. Am. J. Eng. Applied Sci., 9: 166-177. DOI: 10.3844/ajeassp.2016.166.177

Morse, A., M.M. Mansfield, R.M. Alley, H.A. Kerr and R.B. Bucinell, 2016. Traction enhancing products affect maximum torque at the shoe-floor interface: A potential increased risk of ACL injury. Am. J. Eng. Applied Sci., 9: 889-893. DOI: 10.3844/ajeassp.2016.889.893

Moubarek, T. and A. Gharsallah, 2016. A six-port reflectometer calibration using Wilkinson power divider. Am. J. Eng. Applied Sci., 9: 274-280. DOI: 10.3844/ajeassp.2016.274.280

Nabilou, A., 2016a. Effect of parameters of selection and replacement drilling bits based on geo-mechanical factors: (case study: Gas and oil reservoir in the Southwest of Iran). Am. J. Eng. Applied Sci., 9: 380-395. DOI: 10.3844/ajeassp.2016.380.395

Nabilou, A., 2016b. Study of the parameters of Steam Assisted Gravity Drainage (SAGD) method for enhanced oil recovery in a heavy oil fractured carbonate reservoir. Am. J. Eng. Applied Sci., 9: 647-658. DOI: 10.3844/ajeassp.2016.647.658

Nachiengtai, T., W. Chim-Oye, S. Teachavorasinskun and W. Sa-Ngiamvibool, 2008. Identification of shear band using elastic shear wave propagation. Am. J. Eng. Applied Sci., 1: 188-191. DOI: 10.3844/ajeassp.2008.188.191

Nahas, R. and S.P. Kozaitis, 2014. Metric for the fusion of synthetic and real imagery from multimodal sensors. Am. J. Eng. Applied Sci., 7: 355-362. DOI: 10.3844/ajeassp.2014.355.362

Nandhakumar, S., V. Selladurai and S. Sekar, 2009. Numerical investigation of an industrial robot arm control problem using haar wavelet series. Am. J. Eng. Applied Sci., 2: 584-589. DOI: 10.3844/ajeassp.2009.584.589

Ng, K.C., M.Z. Yusoff, K. Munisamy, H. Hasini and N.H. Shuaib, 2008. Time-marching method for computations of high-speed compressible flow on structured and unstructured grid. Am. J. Eng. Applied Sci., 1: 89-94. DOI: 10.3844/ajeassp.2008.89.94

Obaiys, S.J., Z. Abbas, N.M.A. Nik Long, A.F. Ahmad and A. Ahmedov *et al*., 2016. On the general solution of first-kind hypersingular integral equations. Am. J. Eng. Applied Sci., 9: 195-201. DOI: 10.3844/ajeassp.2016.195.201

Odeh, S., R. Faqeh, L. Abu Eid and N. Shamasneh, 2009. Vision-based obstacle avoidance of mobile robot using quantized spatial model. Am. J. Eng. Applied Sci., 2: 611-619. DOI: 10.3844/ajeassp.2009.611.619

Opafunso, Z.O., I.I. Ozigis and I.A. Adetunde, 2009. Pneumatic and hydraulic systems in coal fluidized bed combustor. Am. J. Eng. Applied Sci., 2: 88-95. DOI: 10.3844/ajeassp.2009.88.95

Orlando, N. and E. Benvenuti, 2016. Advanced XFEM simulation of pull-out and debonding of steel bars and FRP-reinforcements in concrete beams. Am. J. Eng. Applied Sci., 9: 746-754. DOI: 10.3844/ajeassp.2016.746.754

Pannirselvam, N., P.N. Raghunath and K. Suguna, 2008. Neural network for performance of glass fibre reinforced polymer plated RC beams. Am. J. Eng. Applied Sci., 1: 82-88. DOI: 10.3844/ajeassp.2008.82.88

Pattanasethanon, S., 2010. The solar tracking system by using digital solar position sensor. Am. J. Eng. Applied Sci., 3: 678-682. DOI: 10.3844/ajeassp.2010.678.682

Pérez-de León, G., V.E. Lamberti, R.D. Seals, T.M. Abu-Lebdeh and S.A. Hamoush 2016. Gas atomization of molten metal: Part I. Numerical modeling conception. Am. J. Eng. Applied Sci., 9: 303-322. DOI: 10.3844/ajeassp.2016.303.322

Petrescu, F. and R. Petrescu, 1995a. Contributions to the optimization of the polynomial motion laws of the stick from the internal combustion engine distribution mechanism. Bucharest.

Petrescu, F. and R. Petrescu, 1995b. Contributions to the synthesis of distribution mechanisms of internal combustion engines. Bucharest.

Petrescu, F. and R. Petrescu, 1997a. Dynamics of cam mechanisms (exemplified on the classic distribution mechanism). Bucharest.

Petrescu, F. and R. Petrescu, 1997b. Contributions to the synthesis of the distribution mechanisms of internal combustion engines with Cartesian coordinate method. Bucharest.

Petrescu, F. and R. Petrescu, 1997c. Contributions to the maximization of polynomial laws for the active stroke of the distribution mechanism from internal combustion engines. Bucharest.

Petrescu, F. and R. Petrescu, 2000a. Synthesis of distribution mechanisms by the rectangular coordinate method (Cartesian). Craiova University, Craiova.

Petrescu, F. and R. Petrescu, 2000b. The design (synthesis) of cam mechanism by the polar coordinates method (triangle method). Craiova University, Craiova.

Petrescu, F. and R. Petrescu, 2002a. Motion laws for cam mechanisms. Proceedings of the 7th National Symposium with International Participation Computer Assisted Design, (CAD' 02), Braşov, pp: 321-326.

Petrescu, F. and R. Petrescu, 2002b. Dynamics of cam mechanisms. Proceedings of the National Symposium with International Participation Computer Assisted Design, (CAD' 02), Brasov, pp: 327-332.

Petrescu, F. and R. Petrescu, 2003. Some elements regarding the improvement of the engine design. Proceedings of the 8th National Symposium, Descriptive Geometry, Technical Graphics and Design, (GTD' 03), Braşov, pp: 353-358.

Petrescu, F. and R. Petrescu, 2005a. The cam design for a better efficiency. Proceedings of the International Conference on Engineering Graphics and Design, (EGD' 05), Bucharest, pp: 245-248.

Petrescu, F. and R. Petrescu, 2005b. Contributions at the dynamics of cams. Proceedings of the 9th IFToMM International Symposium on Theory of Machines and Mechanisms, (TMM' 05), Bucharest, Romania, pp: 123-128.

Petrescu, F. and R. Petrescu, 2005c. Determining the dynamic efficiency of cams. Proceedings of the 9th IFToMM International Symposium on Theory of Machines and Mechanisms, (TMM' 05), Bucharest, Romania, pp: 129-134.

Petrescu, F. and R. Petrescu, 2005d. An original internal combustion engine. Proceedings of the 9th IFToMM International Symposium on Theory of Machines and Mechanisms, (TMM' 05), Bucharest, Romania, pp: 135-140.

Petrescu, F. and R. Petrescu, 2005e. Determining the mechanical efficiency of Otto engine's mechanism. Proceedings of the 9th IFToMM International Symposium on Theory of Machines and Mechanisms, (TMM' 05), Bucharest, Romania, pp: 141-146.

Petrescu, R.V. and F.I. Petrescu, 2013a. Lockheed Martin. 1st Edn., BoD-Books on Demand, ISBN-10: 3848230739, pp: 114.

Petrescu, R.V. and F.I. Petrescu, 2013b. Northrop. 1st Edn., CreateSpace, pp: 96.

Petrescu, R.V. and F.I. Petrescu, 2013c. The Aviation History or New Aircraft I Color. 1st Edn., CreateSpace, pp: 292.

Petrescu, F.I.T. and R.V. Petrescu, 2013d. Forces and efficiency of cams. Int. Rev. Mech. Eng. J., 7: 507-511.

Petrescu, F.I.T. and R.V. Petrescu, 2013e. Cams with high efficiency. Int. Rev. Mech. Eng. J., 7: 599-606.

Petrescu, F.I.T. and R.V. Petrescu, 2013f. An algorithm for setting the dynamic parameters of the classic distribution mechanism. Int. Rev. Modell. Simulat. J., 6: 1637-1641.

Petrescu, F.I.T. and R.V. Petrescu, 2013g. Dynamic synthesis of the rotary cam and translated tappet with roll. Int. Rev. Modell. Simulat. J., 6: 600-607.

Petrescu, F.I. and R.V. Petrescu, 2012. New Aircraft II. 1st Edn., Books On Demand, pp: 138.

Petrescu, F.I. and R.V. Petrescu, 2011. Memories about Flight. 1st Edn., CreateSpace, pp: 652.

Petrescu, F.I.T. and R.V. Petrescu, 2014a. Parallel moving mechanical systems. Independent J. Manage. Product., 5: 564-580.

Petrescu, F.I.T. and R.V. Petrescu, 2014b. Cam gears dynamics in the classic distribution. Independent J. Manage. Product., 5: 166-185.

Petrescu, F.I.T. and R.V. Petrescu, 2014c. High-efficiency gears synthesis by avoid the interferences. Independent J. Manage. Product., 5: 275-298.

Petrescu, F.I.T. and R.V. Petrescu, 2014d. Gear design. J. ENGEVISTA, 16: 313-328.

Petrescu, F.I.T. and R.V. Petrescu, 2014e. Kinetostatic of the 3R dyad (or 2R Module). J. ENGEVISTA, 16: 314-321.

Petrescu, F.I.T. and R.V. Petrescu, 2014f. Balancing Otto engines. Int. Rev. Mech. Eng. J., 8: 473-480.

Petrescu, F.I.T. and R.V. Petrescu, 2014g. Machine equations to the classical distribution. Int. Rev. Mech. Eng. J., 8: 309-316.

Petrescu, F.I.T. and R.V. Petrescu, 2014h. Forces of internal combustion heat engines. Int. Rev. Modell. Simulat. J., 7: 206-212.

Petrescu, F.I.T. and R.V. Petrescu, 2014i. Determination of the yield of internal combustion thermal engines. Int. Rev. Mech. Eng. J., 8: 62-67.

Petrescu, F.I.T. and R.V. Petrescu, 2015a. Forces at the main mechanism of a railbound forging manipulator. Independent J. Manage. Product., 6: 904-921.

Petrescu, F.I.T. and R.V. Petrescu, 2015b. Kinematics at the main mechanism of a railbound forging manipulator. Independent J. Manage. Product., 6: 711-729.

Petrescu, F.I.T. and R.V. Petrescu, 2015c. Machine motion equations. Independent J. Manage. Product., 6: 773-802.

Petrescu, F.I.T. and R.V. Petrescu, 2015d. Presenting a railbound forging manipulator. Applied Mechan. Mater., 762: 219-224.

Petrescu, F.I.T. and R.V. Petrescu, 2015e. About the anthropomorphic robots. J. ENGEVISTA, 17: 1-15

Petrescu, F.I.T. and R.V. Petrescu, 2016. An Otto engine dynamic model. Independent J. Manage. Product., 7: 038-048.

Petrescu, F.I.T., 2018. About the nuclear particles' structure and dimensions. Comp. Part. Mech. DOI: 10.1007/s40571-018-0206-7

Petrescu, F.I.T., 2015a. Geometrical synthesis of the distribution mechanisms. Am. J. Eng. Applied Sci., 8: 63-81. DOI: 10.3844/ajeassp.2015.63.81

Petrescu, F.I.T., 2015b. Machine motion equations at the internal combustion heat engines. Am. J. Eng. Applied Sci., 8: 127-137. DOI: 10.3844/ajeassp.2015.127.137

Petrescu, F.I.T., 2012a. Cold nuclear fusion. Plasma Phys. Fusion Technol., 44: 100-100.

Petrescu, F.I.T., A. Apicella, R.V. Petrescu, S.P. Kozaitis and R.B. Bucinell *et al*., 2016. Environmental protection through nuclear energy. Am. J. Applied Sci., 13: 941-946.

Petrescu, R.V., R. Aversa, B. Akash, F. Berto and A. Apicella *et al*., 2017a. Forces of a 3R robot. J. Mechatron. Robot., 1: 1-14. DOI: 10.3844/jmrsp.2017.1.14

Petrescu, R.V., R. Aversa, B. Akash, F. Berto and A. Apicella *et al*., 2017b. Direct geometry and cinematic to the MP-3R systems. J. Mechatron. Robot., 1: 15-23. DOI: 10.3844/jmrsp.2017.15.23

Petrescu, R.V., R. Aversa, B. Akash, F. Berto and A. Apicella *et al*., 2017c. Dynamic elements at MP3R. J. Mechatron. Robot., 1: 24-37. DOI: 10.3844/jmrsp.2017.24.37

Petrescu, R.V., R. Aversa, B. Akash and A. Apicella *et al*., 2017d. Geometry and direct kinematics to MP3R with 4×4 operators. J. Mechatron. Robot., 1: 38-46. DOI: 10.3844/jmrsp.2017.38.46

Petrescu, R.V., R. Aversa, A. Apicella and F.I.T. Petrescu, 2018a. Total Static Balancing and Kinetostatics of the 3R Base Cinematic Chain. J. Mechatron. Robot., 2: 1-13. DOI: 10.3844/jmrsp.2018.1.13

Petrescu, R.V., R. Aversa, A. Apicella and F.I.T. Petrescu, 2018b. Switching from Flat to Spatial Motion to 3R Mechatronic Systems. J. Mechatron. Robot., 2: 14-22. DOI: 10.3844/jmrsp.2018.14.22

Petrescu, R.V., R. Aversa, A. Apicella and F.I.T. Petrescu, 2018c. The dynamics of the planar cinematic balanced chain at the plan module 3R. J. Mechatron. Robot., 2: 23-34. DOI: 10.3844/jmrsp.2018.23.34

Petrescu, R.V., R. Aversa, A. Apicella and F.I.T. Petrescu, 2018d. Dynamic Kinematics of the Plan Balanced Chain at the Planar Module 3R. J. Mechatron. Robot., 2: 35-44. DOI: 10.3844/jmrsp.2018.35.44

Petrescu, F.I.T. and J.K. Calautit, 2016a. About nano fusion and dynamic fusion. Am. J. Applied Sci., 13: 261-266.

Petrescu, F.I.T. and J.K. Calautit, 2016b. About the light dimensions. Am. J. Applied Sci., 13: 321-325.

Petrescu FIT., 2012b. China. CreateSpace Independent Publisher, 232 pages, ISBN-13: 978-1469973623

Pisello, A.L., G. Pignatta, C. Piselli, V.L. Castaldo and F. Cotana, 2016. Investigating the dynamic thermal behavior of building envelope in summer conditions by means of in-field continuous monitoring. Am. J. Eng. Applied Sci., 9: 505-519. DOI: 10.3844/ajeassp.2016.505.519

Pourmahmoud, N., 2008. Rarefied gas flow modeling inside rotating circular cylinder. Am. J. Eng. Applied Sci., 1: 62-65. DOI: 10.3844/ajeassp.2008.62.65

Pravettoni, M., C.S.P. Lòpez and R.P. Kenny, 2016. Impact of the edges of a backside diffusive reflector on the external quantum efficiency of luminescent solar concentrators: experimental and computational approach. Am. J. Eng. Applied Sci., 9: 53-63. DOI: 10.3844/ajeassp.2016.53.63

Qutbodin, K., 2010. Merging autopilot/flight control and navigation-flight management systems. Am. J. Eng. Applied Sci., 3: 629-630. DOI: 10.3844/ajeassp.2010.629.630

Rajbhandari, S., Z. Ghassemlooy and M. Angelova, 2011. The performance of a dual header pulse interval modulation in the presence of artificial light interferences in an indoor optical wireless communications channel with wavelet denoising. Am. J. Eng. Applied Sci., 4: 513-519. DOI: 10.3844/ajeassp.2011.513.519

Rajput, R.S., S. Pandey and S. Bhadauria, 2016. Correlation of biodiversity of algal genera with special reference to the waste water effluents from industries. Am. J. Eng. Applied Sci., 9: 1127-1133. DOI: 10.3844/ajeassp.2016.1127.1133

Raptis, K.G., G.A. Papadopoulos, T.N. Costopoulos and A.D. Tsolakis, 2011. Experimental study of load sharing in roller-bearing contact by caustics and photoelasticity. Am. J. Eng. Applied Sci., 4: 294-300. DOI: 10.3844/ajeassp.2011.294.300

Rama, G., D. Marinkovic and M. Zehn, 2016. Efficient co-rotational 3-node shell element. Am. J. Eng. Applied Sci., 9: 420-431. DOI: 10.3844/ajeassp.2016.420.431

Rea, P. and E. Ottaviano, 2016. Analysis and mechanical design solutions for sit-to-stand assisting devices. Am. J. Eng. Applied Sci., 9: 1134-1143. DOI: 10.3844/ajeassp.2016.1134.1143

Riccio, A., U. Caruso, A. Raimondo and A. Sellitto, 2016a. Robustness of XFEM method for the simulation of cracks propagation in fracture mechanics problems. Am. J. Eng. Applied Sci., 9: 599-610. DOI: 10.3844/ajeassp.2016.599.610

Riccio, A., R. Cristiano and S. Saputo, 2016b. A brief introduction to the bird strike numerical simulation. Am. J. Eng. Applied Sci., 9: 946-950. DOI: 10.3844/ajeassp.2016.946.950

Rich, F. and M.A. Badar, 2016. Statistical analysis of auto dilution Vs manual dilution process in inductively coupled plasma spectrometer tests. Am. J. Eng. Applied Sci., 9: 611-624. DOI: 10.3844/ajeassp.2016.611.624

Rohit, K. and S. Dixit, 2016. Mechanical properties of waste Biaxially Oriented Polypropylene Metallized Films (BOPP), LLDPE: LDPE Films with Sisal Fibres. Am. J. Eng. Applied Sci., 9: 913-920. DOI: 10.3844/ajeassp.2016.913.920

Rulkov, N.F., A.M. Hunt, P.N. Rulkov and A.G. Maksimov, 2016. Quantization of map-based neuronal model for embedded simulations of neurobiological networks in real-time. Am. J. Eng. Applied Sci., 9: 973-984. DOI: 10.3844/ajeassp.2016.973.984

Saikia, A. and N. Karak, 2016. Castor oil based epoxy/clay nanocomposite for advanced applications. Am. J. Eng. Applied Sci., 9: 31-40. DOI: 10.3844/ajeassp.2016.31.40

Sallami, A., N. Zanzouri and M. Ksouri, 2016. Robust diagnosis of a DC motor by bond graph approach. Am. J. Eng. Applied Sci., 9: 432-438. DOI: 10.3844/ajeassp.2016.432.438

Samantaray, K.S., S. Sahoo and C.S. Rout, 2016. Hydrothermal synthesis of $CuWO_4$-reduced graphene oxide hybrids and supercapacitor application. Am. J. Eng. Applied Sci., 9: 584-590. DOI: 10.3844/ajeassp.2016.584.590

Semin, A.R. Ismail and R.A. Bakar, 2009a. Combustion temperature effect of diesel engine convert to compressed natural gas engine. Am. J. Eng. Applied Sci., 2: 212-216. DOI: 10.3844/ajeassp.2009.212.216

Semin, A.R. Ismail and R.A. Bakar, 2009b. Effect of diesel engine converted to sequential port injection compressed natural gas engine on the cylinder pressure Vs crank angle in variation engine speeds. Am. J. Eng. Applied Sci., 2: 154-159. DOI: 10.3844/ajeassp.2009.154.159

Semin S., A.R. Ismail and R.A. Bakar, 2009c. Diesel engine convert to port injection CNG engine using gaseous injector nozzle multi holes geometries improvement: A review. Am. J. Eng. Applied Sci., 2: 268-278. DOI: 10.3844/ajeassp.2009.268.278

Semin and R.A. Bakar, 2008. A technical review of compressed natural gas as an alternative fuel for internal combustion engines. Am. J. Eng. Applied Sci., 1: 302-311. DOI: 10.3844/ajeassp.2008.302.311

Sepúlveda, J.A.M., 2016. Outlook of municipal solid waste in Bogota (Colombia). Am. J. Eng. Applied Sci., 9: 477-483. DOI: 10.3844/ajeassp.2016.477.483

Serebrennikov, A., D. Serebrennikov and Z. Hakimov, 2016. Polyethylene pipeline bending stresses at an installation. Am. J. Eng. Applied Sci., 9: 350-355. DOI: 10.3844/ajeassp.2016.350.355

Shanmugam, K., 2016. Flow dynamic behavior of fish oil/silver nitrate solution in mini-channel, effect of alkane addition on flow pattern and interfacial tension. Am. J. Eng. Applied Sci., 9: 236-250. DOI: 10.3844/ajeassp.2016.236.250

Shruti, 2016. Comparison in cover media under stegnography: Digital media by hide and seek approach. Am. J. Eng. Applied Sci., 9: 297-302. DOI: 10.3844/ajeassp.2016.297.302

Suarez, L., T.M. Abu-Lebdeh, M. Picornell and S.A. Hamoush, 2016. Investigating the role of fly ash and silica fume in the cement hydration process. Am. J. Eng. Applied Sci., 9: 134-145. DOI: 10.3844/ajeassp.2016.134.145

Syahrullah, O.I. and N. Sinaga, 2016. Optimization and prediction of motorcycle injection system performance with feed-forward back-propagation method Artificial Neural Network (ANN). Am. J. Eng. Applied Sci., 9: 222-235. DOI: 10.3844/ajeassp.2016.222.235

Taher, S.A., R. Hematti and M. Nemati, 2008. Comparison of different control strategies in GA-based optimized UPFC controller in electric power systems. Am. J. Eng. Applied Sci., 1: 45-52. DOI: 10.3844/ajeassp.2008.45.52

Theansuwan, W. and K. Triratanasirichai, 2011. The biodiesel production from roast Thai sausage oil by transesterification reaction. Am. J. Eng. Applied Sci., 4: 130-132. DOI: 10.3844/ajeassp.2011.130.132

Thongwan, T., A. Kangrang and S. Homwuttiwong, 2011. An estimation of rainfall using fuzzy set-genetic algorithms model. Am. J. Eng. Applied Sci., 4: 77-81. DOI: 10.3844/ajeassp.2011.77.81

Tourab, W., A. Babouri and M. Nemamcha, 2011. Experimental study of electromagnetic environment in the vicinity of high voltage lines. Am. J. Eng. Applied Sci., 4: 209-213. DOI: 10.3844/ajeassp.2011.209.213

Tsolakis, A.D. and K.G. Raptis, 2011. Comparison of maximum gear-tooth operating bending stresses derived from niemann's analytical procedure and the finite element method. Am. J. Eng. Applied Sci., 4: 350-354. DOI: 10.3844/ajeassp.2011.350.354

Wang, L., T. Liu, Y. Zhang and X. Yuan, 2016. A methodology for continuous evaluation of cloud resiliency. Am. J. Eng. Applied Sci., 9: 264-273. DOI: 10.3844/ajeassp.2016.264.273

Wang, J. and Y. Yagi, 2016. Fragment-based visual tracking with multiple representations. Am. J. Eng. Applied Sci., 9: 187-194. DOI: 10.3844/ajeassp.2016.187.194

Waters, C., S. Ajinola and M. Salih, 2016. Dissolution sintering technique to create porous copper with sodium chloride using polyvinyl alcohol solution through powder metallurgy. Am. J. Eng. Applied Sci., 9: 155-165. DOI: 10.3844/ajeassp.2016.155.165

Wessels, L. and H. Raad, 2016. Recent advances in point of care diagnostic tools: A review. Am. J. Eng. Applied Sci., 9: 1088-1095. DOI: 10.3844/ajeassp.2016.1088.1095

Yeargin, R., R. Ramey and C. Waters, 2016. Porosity analysis in porous brass using dual approaches. Am. J. Eng. Applied Sci., 9: 91-97. DOI: 10.3844/ajeassp.2016.91.97

You, M., X. Huang, M. Lin, Q. Tong and X. Li *et al*., 2016. Preparation of $LiCoMnO_4$ assisted by hydrothermal approach and its electrochemical performance. Am. J. Eng. Applied Sci., 9: 396-405. DOI: 10.3844/ajeassp.2016.396.405

Zeferino, R.S., J.A.R. Ramón, E. de Anda Reyes, R.S. González and U. Pal, 2016. Large scale synthesis of ZnO nanostructures of different morphologies through solvent-free mechanochemical synthesis and their application in photocatalytic dye degradation. Am. J. Eng. Applied Sci., 9: 41-52. DOI: 10.3844/ajeassp.2016.41.52

Zhao, B., 2013. Identification of multi-cracks in the gate rotor shaft based on the wavelet finite element method. Am. J. Eng. Applied Sci., 6: 309-319. DOI: 10.3844/ajeassp.2013.309.319

Zheng, H. and S. Li, 2016. Fast and robust maximum power point tracking for solar photovoltaic systems. Am. J. Eng. Applied Sci., 9: 755-769. DOI: 10.3844/ajeassp.2016.755.769

Zotos, I.S. and T.N. Costopoulos, 2009. On the use of rolling element bearings' models in precision maintenance. Am. J. Eng. Applied Sci., 2: 344-352. DOI: 10.3844/ajeassp.2009.344.352

Zulkifli, R., K. Sopian, S. Abdullah and M.S. Takriff, 2008. Effect of pulsating circular hot air jet frequencies on local and average nusselt number. Am. J. Eng. Applied Sci., 1: 57-61. DOI: 10.3844/ajeassp.2008.57.61

Zulkifli, R., K. Sopian, S. Abdullah and M.S. Takriff, 2009. Experimental study of flow structures of circular pulsating air jet. Am. J. Eng. Applied Sci., 2: 171-175. DOI: 10.3844/ajeassp.2009.171.175

Zurfi, A. and J. Zhang, 2016a. Model identification and wall-plug efficiency measurement of white LED modules. Am. J. Eng. Applied Sci., 9: 412-419. DOI: 10.3844/ajeassp.2016.412.419

Zurfi, A. and J. Zhang, 2016b. Exploitation of battery energy storage in load frequency control -A literature survey. Am. J. Eng. Applied Sci., 9: 1173-1188. DOI: 10.3844/ajeassp.2016.1173.1188

Source of Figures:

https://news.lockheedmartin.com/2018-12-26-Sikorsky-Boeing-Provide-First-Look-at-SB-1-DEFIANT-TM