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Abstract

Advanced Techniques for Design and Analysis of Composite Communication Reflectors

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Abstract:

As the benefits of advanced composite materials become known to the satellite communications industry, there is an increasing need for fast and accurate design and analysis of these new composite reflectors. Since often times these composite structures are used in cost critical commercial applications, which require faster design engineering, materials development, and manufacturing with shorter delivery schedules. Due to cost and time constraints, full scale environmental testing is usually not an option for these commercial applications. Therefore, there is an urgent need for experienced composite D&A engineers with an extensive background in composite materials and structures. These engineers relay on many advanced techniques and tools to accelerate the composite design and engineering process.

In this thirty-minute presentation, WCA will discuss the design and analysis techniques and tools used to develop several satellite communications composite structures for this industry. The design and analysis schedule for this project was significantly reduce due to the experience of the WCA engineering team, and the access to composite materials developed for the aerospace industry.

Biography:

Tim Douglas President, Wasatch Composite Analysis Wasatch Composite Analysis, LLC: Over 30 years of experience in composite and metallic structures, design and analysis, satellite and propulsion design, marketing, management, and programming. Owner of Wasatch Composite Analysis which is an Engineering Services company that provides structural/dynamic analysis of composite/metallic structures for several composite manufacturing companies in Utah and Colorado.

Publication of speakers:

1. C. Otte, S.M. Gold, B.W. Penninx, C.M. Pariante, A. Etkin, M. Fava, et al.Major depressive disorder Nat Rev Dis Primers, 2 (2016), p. 16065
2. E. Bromet, L.H. Andrade, I. Hwang, N.A. Sampson, J. Alonso, G. De Girolamo, et al.Cross-national epidemiology of DSM-IV major depressive episode BMC Med, 9 (2011), p. 90
3. Y. Zeng, P. Navarro, C. Xia, C. Amador, A.M. Fernandez-Pujals, P.A. Thomson, et al.Shared genetics and couple-associated environment are major contributors to the risk of both clinical and self-declared depression EBioMedicine, 14 (2016), pp. 161-167
4. P.F. SullivanGenetic epidemiology of major depression: Review and meta-analysis Am J Psychiatry, 157 (2000), pp. 1552-1562

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