

# InsideGNSS

GPS | GALILEO | GLONASS | BEIDOU

ON THE COVER

**40 Thinking Small**  
**Prototyping an Accurate Position and Attitude Estimator for Small UAVs with Commercial IMUs and Low-Cost GNSS**  
Gianluca Falco, María Campo-Cossío Gutiérrez, Esther López Casariego, Fabio Zacchello, and Serge Bories



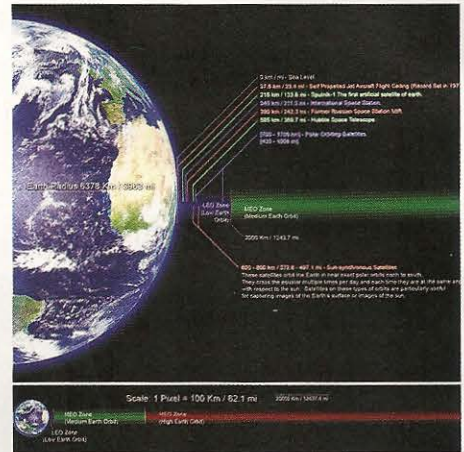
Cover photo courtesy of Aermatica S.P.A.

A design team tells how they developed a low-cost attitude determination and navigation system based primarily on mass market OEM GNSS receivers and antennas, aided by MEMS inertial sensors.

TECHNICAL ARTICLE

**52 Estimating the Short-Term Stability of In-Orbit GNSS Clocks**  
**Following Launch on GEO/GSO Satellites**  
Dhaval Upadhyay, Kriti Khatri, Parimal Majithiya, and S. C. Bera

An engineering team proposes a method for determining the time of atomic clocks onboard satellites in geosynchronous and geostationary orbits when precise ephemeris data from ground monitoring stations are unavailable during initial checkout following launch.



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**Are there special considerations for dealing with raw GNSS data?**  
Mark Petovello



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**Double Phase Estimator: Towards a New Perception of the Subcarrier Component**

Daniele Borio

This article introduces an advanced tracking algorithm that exploits a new conception of the subcarrier to fully benefit from the structure of BOC-modulated signals.

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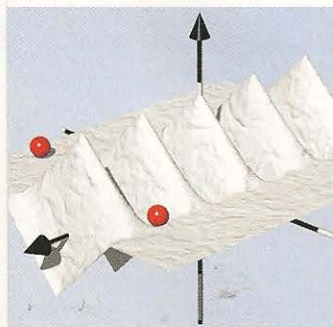
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 CSNC 2015: China Catching Up  
 House Lawmakers Cut Civil GPS  
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 ITS World Congress Highlights GNSS  
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