

PRINT ONLY: SMALL BODIES

Dergham J. Trigo-Rodriguez J. M. Cortes J. Madiedo J. M. Pujols P. Llorca J. Montanya J. van der Velde O.

[*A 2010 Taurid Bolide Imaged in the Framework of the Spanish Fireball Network*](#) [#1859]

A Taurid bolide as bright as the full Moon was imaged over Catalonia on October 19, 2010. The meteoroid dynamic strength in the main fragmentation was $1.9 \times 10^5 \text{ dyn/cm}^2$, being more fragile than typical 2P/Encke meteoroids so no meteorites were produced.

Golubeva L. F. Shestopalov D. I.

[*Space Weathering of Asteroids*](#) [#1029]

For high mobility of asteroid regoliths optical maturity of asteroid bodies is low and cannot substantially alter their reflectance spectra.

Granata V. Marzari F. Davis D. R. Paolicchi P. Vanzani V.

[*Multi-Zone Simulations of the Collisional Evolution of Main Belt Asteroids*](#) [#1359]

We have adapted the planet building code, a multizone code, to study the collisional evolution of asteroids in the main belt. In this way the effects of resonances and Yarkowski's drift are statistically included and we can estimate the flux of bodies into NEO orbits.

Illés-Almár E.

[*Comet Hartley 2 and the Two Kinds of Cometary Sub-Nuclei*](#) [#1354]

The images of the nucleus of Comet Hartley 2 strengthen our earlier hypothesis that the subnuclei, building up the nucleus of a comet, can be of different hardness.

Katsura T. Nakamura A. M. Suzuki A. Hasegawa S.

[*Impact Experiments on Collisional Evolution of Iron Regolith*](#) [#1695]

We show the surface of iron bodies may be covered with regolith based on impact experiments onto iron targets. We also show the crater morphology and cratering efficiency of iron particles are similar to those of rocky regolith.

Kochemasov G. G.

[*Similar Shapes of Asteroid Eros, Satellite Atlas, and Comet Hartley 2 Despite of Different Classes, Orbits, Sizes and Compositions of These Bodies*](#) [#1125]

Small celestial bodies show similar oblong convexo-concave tectonically dichotomous shapes due to a warping action of inertia-gravity waves appearing in them because of their movements in Keplerian orbits with periodically changing accelerations.

Konovalova N. A. Madiedo J. M. Trigo-Rodriguez J. M.

[*The Physical Properties of the June Bootids and the July 23, 2008 Superbolide*](#) [#1355]

The results of the physical properties of the June Bootids and superbolide of July 23, 2008, are presented. On the basis of the aerodynamic pressure we can conclude that the superbolide was sufficiently large and of high enough tensile strength to produce meteorites.

Krause M. Henke S. Gail H.-P. Tieloff M. Blum J. Skorov Yu. V. Schwarz W. H. Kleine T.

[*Modeling the Early Thermal Evolution of Meteorite Parent Bodies Based on New Thermal Conductivity Measurements of Highly Porous Aggregates*](#) [#2696]

Peak central temperatures in initially highly porous planetesimals heated by short-lived nuclide decay energy are significantly higher particularly for small km sized planetesimals.

Madiedo J. M. Trigo-Rodríguez J. M.

[*Historical Records of \$\delta\$ -Arietids Superfireballs Over Spain*](#) [#1368]

We present the analysis of a very remarkable event that took place over Spain on December 8, 1932, and the evidence that supports its connection to the δ -Arietids meteor shower. This supports the idea that this could be a meteorite-producing shower.

Shestopalov D. I. Golubeva L. F.

[*Bond Albedo of Asteroids from Polarimetric Data*](#) [#1028]

One can estimate the Bond albedo of asteroids by their maximal negative polarization.

Tricarico P. Samarasinha N.

[*A Model For Dust Particles Orbiting the Nuclei of Comets*](#) [#2721]

A model for dust particles orbiting the nuclei of comets is presented. The initial capabilities of the model are discussed.

Trigo-Rodríguez J. M. Llorca J. Madiedo J. M. Rivkin A. S. de León J. Pinilla-Alonso N.

[*Precise Reflectance Spectra of Ordinary Chondrites in the Visible and UV: Exploring the Variability of S-Class Asteroidal Spectra*](#) [#1795]

We used a UV-Vis-NIR spectrometer to get reflectance spectra of several ordinary chondrites. The results are compared with the averaged reflectance of S-class asteroids. We explore the importance of roughness in the diversity observed for the S-class.