

APPLICANT INFORMATION

Smiliana Dimitrova Dikova
PhD, researcher
Institute of Astronomy, Bulgarian Academy of Sciences
1784 Sofia
72, Tzarigradsko schosse
Bulgaria
SKYDYN@BAS.BG
00359 2 758927
00359 2 758927
bulgarian

ORAL PRESENTATION

ATTRACTIVE APPROACH TO THE SCIENTIFIC DATA- ASTEROID FUGHETTA

S. Dikova

Institute of Astronomy, Bulgarian Academy of Sciences
SKYDYN@BAS.BG

ABSTRACT. We present a survey on dynamical structure of the main asteroid belt comparing the distributions by osculating orbital elements and by proper orbital elements. The osculating elements represent the orbits in a fixed epoch. The proper orbital elements are quasi-integrals of motion, stable over very long intervals of time. They are almost constant over millions of years for each asteroid moving under the gravitational attraction of the Sun and major planets. Therefore they present a sort of average characteristics of motion in sense that they are result from a procedure of elimination of short and long periodic perturbations. We may listen to the history of asteroid belt in the past (by proper elements) and its echo now or in future (by osculating elements).

Following the tradition in the art of asteroid dynamics, we present results comparing the distributions by osculating and by proper orbital elements as two and three-dimensional plots. It is well known that the number of the points on our plots depends on the quantity of dollars! So, it is not surprising that, when scientist need to present his work in attractive terms to publishers, journalists, and funding agencies, there is nothing wrong with good marketing. The arts mollify morals and we chose music as a bridge between the public and the research. We transform the distribution curves into sound curves. We rebind the density scale of bins with a musical note. By this way we obtain so called musical Asteroid Fughetta.

REQUESTED FINANCIAL AID: Because my monthly salary as a researcher is 140 EURO I would like to apply for a hotel accomodation, travel grant (Sofia-Strasburg-Sofia - 400 EURO) and registration and demo fee waiver.