Contribution ID: **2**   Type: **Oral Presentation**

Dust heating by Alfvén waves using non-Maxwellian distribution function

Wednesday, 13 July 2016 11:15 (20 minutes)

**Abstract content
   (Max 300 words)
Formatting &
Special chars**

Quasilinear theory is employed in order to evaluate the resonant heating rate by Alfven waves, of multiple species dust particles in a hot, collisionless, and magnetized plasma, with the underlying assumption that the dust velocity distribution function can be modeled by a generalized (r, q) distribution function. The kinetic linear dispersion relation for the electromagnetic dust cyclotron Alfven waves is derived, and the dependence of the heating rate on the magnetic field, mass, and density of the dust species is subsequently investigated. The heating rate and its dependence on the spectral indices r and q of the distribution function are also investigated. It is found that the heating is sensitive to negative value of spectral index r.

Primary author: Dr KIRAN, Zubia (GC University, Lahore, 54000, Pakistan)

Co-author: Dr SHAH, Hassan A. (GC University, Lahore, 54000, Pakistan)

Presenter: Dr KIRAN, Zubia (GC University, Lahore, 54000, Pakistan)

Session Classification: Parallel Track A: Astrophysics and Space Physics, Plasma, Gravitation and Cosmology

Track Classification: Plasma Physics