OIST SEMINAR

Date: March 28th, 2017 (Tue)
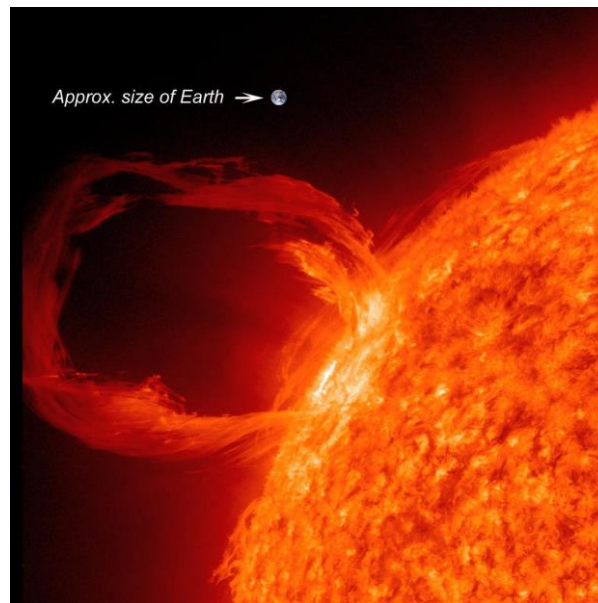Time: 3:00 pm – 4:00 pm
Venue: D015 (Lab1, Level D)
Speaker: Prof. Takeshi Matsumoto
Department of physics, Kyoto University

$SO(3)$ decomposition: case studies as an end-user

Abstract:

A way to get cleaner scaling law out of inhomogeneous anisotropic turbulent flows is the $SO(3)$ decomposition proposed by Arad et al. 1999: for example, the structure function as a function of vector r and location x is decomposed with the spherical harmonics, $S_p(r,x) = \sum A_{m,l}(|r|,x) Y_{m,l}(\theta,\phi)$ and scaling behavior is sought in the coefficient $A_{ml}(|r|,x)$ as a function of $|r|$.

I will explain the main ideas behind the $SO(3)$ decomposition and present the result of the $SO(3)$ decomposition applied to two cases: Rayleigh-Taylor numerical turbulence (3D data) and solar prominence observational data (2D data).

Contact information: Fluid Mechanics Unit
Kaori Egashira: (Tel) 098-966-8683 (e-mail) e-kaori@oist.jp