

Keynote Talk 1



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Title of the keynote talk:

Simulations and Visualizations of Magnetic Fields in Nature

Abstract of the keynote talk:

The sun and most planets in the solar system have intrinsic magnetic fields. They are generated by natural dynamos operating in the bodies through the so called magnetohydrodynamic dynamo process. To understand its mechanism, we have been performing large scale simulations on supercomputers including K-computer. A technical challenge in this kind of large scale simulation resides in the complexity of simulated phenomena and, therefore, the difficulty of their visualizations. In this talk, our recent attempts to the peta-scale visualizations will be introduced: One is three-dimensional, immersive, and interactive visualizations using a CAVE-type virtual reality system. Another is a new way of in-situ visualization in which movies are generated in the simulation run but they can still be analyzed interactively afterward.

Biography:

Akira Kageyama got his PhD in Science from Graduated from Hiroshima University. After working for two national laboratories, National Institute for Fusion Science and JAMSTEC in Japan, he moved to Kobe University in 2009 as a professor.