



# 第3回トポロジカル物質科学セミナー Topological Material Science Seminar (3)

## **Weyl semimetals and superconductors : Basics and Torsional chiral magnetic effect**

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**\*Location has been changed.**

**Place: Room P2 (North Wing of 5<sup>th</sup> bldg. 3<sup>rd</sup> Floor) 525,**

Department of Physics, Graduate School of Science, Kyoto University

**Date: November 20 (Friday), 2015**

**Time: 10:00am-**

Abstract:

This talk consists of two parts. The first part is devoted to a pedagogical introduction to Weyl semimetals and Weyl superconductors.

Then, in the second part, I will present our recent results on torsional chiral magnetic effect in Weyl semimetals with topological defect [1]. Dislocation, which is a topological defect in crystal structure, can induce a “torsional magnetic field”, which plays a role similar to a magnetic field in Dirac fermion systems. We show that the torsional magnetic field raises dissipationless electric current in Weyl semimetal, which is a manifestation of chiral anomaly specific in Weyl fermions, and called the torsional chiral magnetic effect.

[1] H. Sumiyoshi and S. Fujimoto, arXiv: 1509.0398.