Contribution ID: **12** Type: **not specified**

Electrical conductivity of iron in earth's core from microscopic Ohm's Law

Tuesday 13 September 2022 11:00 (30 minutes)

Understanding the electronic transport properties of iron under high temperatures and pressures is essential for constraining geophysical processes. The difficulty of reliably measuring these properties calls for sophisticated theoretical methods that can support diagnostics. We present results of the electrical conductivity within the pressure and temperature ranges found in Earth's core by simulating microscopic Ohm's law using time-dependent density functional theory.

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Session Classification: Morning Session (Tuesday)