

## **Insulator to metal transition and optical response of CsCl under pressure**

### **Abstract**

First principle calculations on cesium chloride (CsCl) compound have been performed using state of the art full potential linearized augmented plane wave (FP-LAPW) method. Calculated structural parameters are found in excellent agreement to the experimental results. Band gap of the compound decreases with the increase of pressure. At 507GPa, electronic nature of the compound changed from the insulating to metallic. Changes are reported in the optical properties like real and imaginary parts of dielectric function, optical conductivity and reflectivity of CsCl on application of high pressure.

**Keywords** — CsCl, FP-LAPW, optoelectronics, pressure effect