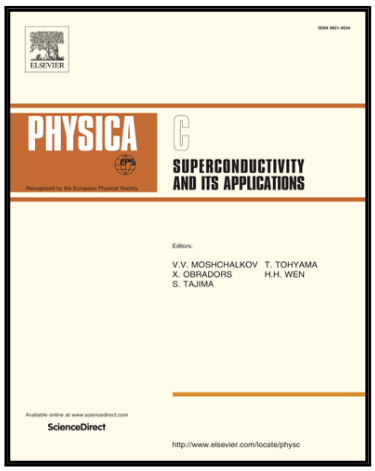

Electron-phonon interaction in the binary superconductor lutetium carbide LuC_2 via first-principles calculations

S. Dilmi , S. Saib , N. Bouarissa

PII: S0921-4534(18)30058-3
DOI: 10.1016/j.physc.2018.03.010
Reference: PHYSC 1253327

To appear in: *Physica C: Superconductivity and its applications*

Received date: 1 February 2018
Revised date: 17 March 2018
Accepted date: 23 March 2018

Please cite this article as: S. Dilmi , S. Saib , N. Bouarissa , Electron-phonon interaction in the binary superconductor lutetium carbide LuC_2 via first-principles calculations, *Physica C: Superconductivity and its applications* (2018), doi: 10.1016/j.physc.2018.03.010

Highlights

- Transition metal carbides and superconducting properties.
- Structural properties and band structure of LuC_2.
- Electron-phonon coupling and dynamical stability of LuC_2.
- Superconducting properties of the intermetallic compound LuC_2.
- Superconducting critical temperature of LuC_2.
- Effect of spin-orbit coupling on superconducting properties of LuC_2.