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Study of Trapping Sites for Beryllium Atom in C_{60}-Fullerene and Electron Capture for ^{7}Be Nucleus. LEE CHOW, ARCHANA DUBEY, University of Central Florida, Orlando, GARY S. COLLINS, Washington State University, Pullman, R.H. SCHEICHER, Michigan Technological University. Houghton, R.H. PINK, DIP N. MAHATO, T.P. DAS[1], State University of New York at Albany — First-Principles Hartree-Fock studies of Be atom in C_{60}-fullerene are being carried out for the trapping sites and electron densities at the ^{7}Be nucleus for these sites, the latter expected to be helpful for understanding the significantly higher electron capture rate for ^{7}Be as compared to a number of other materials experimentally studied including graphite [1]. Possible trapping sites including those found from Hartree-Fock investigations [2] on muonium (H atom) and additional ones above and below the surface perpendicular to C-C bond centers are being investigated. Results will be presented and discussed.

[1] T. Ohtsuki et al, Phys. Rev. Lett. 93, 112501-1 (2004) and references therein.
[2] O. Donzelli, T. Briere and T.P. Das, Sol. St. Comm. 90, 663(1994); Indian J. Phys. 67(Spec. Issue), 35(1993).

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