Commun. Theor. Phys. **66** (2016) 275–279 Vol. 66, No. 3, September 1, 2016 **Fisher Information and Complexity Measure of Generalized Morse Potential Model**

C.A. Onate * and J.O.A. Idiodi Physics Department, University of Benin, Nigeria

(Received March 28, 2016; revised manuscript received May 10, 2016) *Abstract*

The spreading of the quantum-mechanical probability distribution density of the threedimensional system is quantitatively determined by means of the local information-theoretic quantity of the Shannon information and information energy in both position and momentum spaces. The complexity measure which is equivalent to Cramer–Rao uncertainty product is determined. We have obtained the information content stored, the concentration of quantum system and complexity measure numerically for n = 0, 1, 2 and 3 respectively.

PACS numbers: 03.65.Ca, 03.65.Ta, 89.70.+c, 31.15.Ew, 02.50.Cw **Key words:** fisher information, Shannon entropy, complexity measures

Available at: <u>www.iopscience.iop.org</u>