

1053-37-168

Robert Vandervorst*, de Boelelaan 1081, 1081 HV Amsterdam, Netherlands, **J.B. Van den Berg**, de Boelelaan 1081, 1081 HV Amsterdam, Netherlands, and **F. Pasquotto**, de Boelelaan 1081, 1081 HV Amsterdam, Netherlands. *Closed characteristics on non-compact hypersurfaces.*

Viterbo demonstrated that any $(2n-1)$ -dimensional compact hypersurface M of contact type has at least one closed characteristic. This result proved the Weinstein conjecture for the standard symplectic space. Various extensions of this theorem have been obtained since, all for compact hypersurfaces. In this paper we consider non-compact hypersurfaces M coming from mechanical Hamiltonians, and prove an analogue of Viterbo's result. The main result provides a strong connection between the top half homology groups $H^*(M)$, $*$ = $n, \dots, 2n-1$, and the existence of closed characteristics in the non-compact case (including the compact case). (Received September 01, 2009)