

Hamilton's Action Function in Stability Problem of Conservative Systems

S.P. Sosnitskii

*Institute of Mathematics of National Academy of Sciences of Ukraine,
Tereshchenkivska str. 3, 01004, Kyiv-4, Ukraine*

Received: March 5, 2000; Revised: December 29, 2001

Abstract: In the paper the equilibrium stability of conservative systems both holonomic and nonholonomic in case when the appropriate force function of a system has not a local maximum in the equilibrium state is considered. For the investigation of stability the Hamilton action is used as a function of phase variables and time.

Keywords: *Hamilton's action function; stability.*

Mathematics Subject Classification (2000): 70H05, 70H14.