

Wintgen inequality for surfaces in Hessian manifolds

By LEILA SAMEREH (Arak) and ION MIHAI (Bucharest)

Abstract. The inequality of Wintgen is a sharp geometric inequality involving the Gauss curvature (intrinsic invariant) and the normal curvature and squared mean curvature (extrinsic invariants), respectively, for surfaces in the 4-dimensional Euclidean space.

In the present paper, we obtain a Wintgen inequality for statistical surfaces in 4-dimensional Hessian manifolds of constant Hessian curvature.

LEILA SAMEREH
DEPARTMENT OF MATHEMATICS
FACULTY OF SCIENCE
ARAK UNIVERSITY
ARAK, 38156-8-8349
IRAN

ION MIHAI
DEPARTMENT OF MATHEMATICS
UNIVERSITY OF BUCHAREST
STR. ACADEMIEI 14
010014 BUCHAREST
ROMANIA

Mathematics Subject Classification: 53C05, 53C40, 53A40.

Key words and phrases: Wintgen inequality, dual connections, statistical manifold, statistical surface, Hessian manifold, Hessian curvature.