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**Robert J. Stanton\*** ([stanton@math.ohio-state.edu](mailto:stanton@math.ohio-state.edu)), 231 W. 18th Ave., Columbus, OH 43210-1174, and **Marcus J. Slupinski**. *Special geometries arising from some special symmetric spaces*. Preliminary report.

Berger showed that an irreducible Riemannian manifold is either a symmetric space or the holonomy group acts transitively on the unit sphere in the tangent space. For irreducible Riemannian symmetric spaces, Helgason did a detailed investigation of the harmonic analysis of the tangent space. We consider irreducible manifolds with affine connection of special symplectic type and the holonomy action on the tangent space. We prove the existence of special pseudo-Kähler metrics generalizing a result of Hitchin. The main new tool is detailed information about the secant variety to the minimal orbit in the tangent space. (Received September 22, 2011)