

# Some systems of nonlinear PDE which are soluble in closed form

Oldřich Kowalski

*Charles University, Mathematical Institute, Prague, CZECH REPUBLIC*  
[kowalski@karlin.mff.cuni.cz]

The goal of this lecture is to study so-called Riemannian manifolds of conullity two. This means that, at any point, there is an orthonormal basis such that the each curvature component with at least three distinct indices is always equal to zero. Most “geometric classes” of such manifolds in dimension 3 can be expressed in an explicit form, using only arithmetic operations, differentiation and integration, involving some number of arbitrary functions.

---