

Department of Mathematical Sciences Colloquium

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Submanifolds of Contact Metric Manifolds With a Nullity Condition

In the Theory of Manifolds, important place is taken by the contact metric manifolds. The contact geometry has – as does symplectic geometry – applications in physics, e.g., in geometrical optics, classical mechanics, thermodynamics, geometric quantization, and in applied mathematics such as control theory. We will present an overview about an extended study toward special classes of submanifolds in contact metric manifolds with a nullity condition. The main results are focused on the CR-submanifolds, introduced by A. Bejancu in 1978, and developed in many research papers and books. Presented will be properties and results related to the invariant and anti-invariant submanifolds tangent to the structure vector field, anti-invariant submanifolds normal to the structure vector field, CR-products and totally contact umbilical CR-submanifolds in contact metric manifolds with a given nullity condition. Some of them will give conditions to obtain Sasakian structures, others are related to the values and expressions of the sectional and phi-sectional curvatures; moreover, all of them will show the importance of the existence of the defined tensor field h , introduced by the nullity condition.

**Friday, January 27, 2006, at 3 pm in Bell Hall 143
The University of Texas at El Paso**

Refreshments will be served in front of the colloquium room
15 minutes before the start of the colloquium.

For further information, please contact Dr. Pavel Šolín, Bell Hall 220. Phone:
(915) 747-6770, email: solin@utep.edu.