Math 237: Manifolds with Special Holonomy
Spring 2016: Tues/Thurs 1:00-2:30pM
Science center 116

Course Information
Course Instructor: Dan Xie
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Website: http://scholar.harvard.edu/dxie/classes

Reference:
“Sasakian Geometry” by C.Boyer and K.Galicki;
“Compact Manifolds with Special Holonomy” by D. Joyce.
Other papers will be updated on website.

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<td>Overview; Basics: Riemannian geometry, Complex and Kahler geometry</td>
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<td>2/2~2/4</td>
<td>Introduction to Sasakian geometry: Contact geometry, metric cone</td>
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<td>Class one: Sasakian geometry and hypersurface singularity.</td>
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<td>2/16~2/18</td>
<td>Class two: Toric Sasakian manifolds</td>
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<td>Positive Sasakian structure on simply connected five manifold: topological obstruction.</td>
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<td>Sasakian-Einstein manifold 1: Introduction and circle bundle over Kahler-Einstein Fano manifolds. Sasakian-Einstein manifold 2: sufficient condition and alpha invariant</td>
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<td>Sasakian-Einstein manifold 3: Toric case</td>
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<td>4/5~4/7</td>
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<td>G2 manifold: introduction and basic properties</td>
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<td>Calibrated submanifolds</td>
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