K-HOMOLOGY AND INDEX THEORY ON CONTACT MANIFOLDS

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24 October, 10:30-12:00

The Baum-Douglas isomorphism of topological and analytic K-homology can be taken as providing a framework within which the Atiyah-Singer index theorem can be extended to certain non-elliptic differential operators. This talk considers a class of non-elliptic differential operators that arise on compact contact manifolds. In particular, we will focus on solving the Heisenberg-elliptic index problem. This is joint work with Erik van Erp.