

SEMILOCAL RINGS, PROJECTIVE MODULES AND DECOMPOSITIONS OF INFINITE DIRECT SUMS OF MODULES

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In a series of joint papers with Pavel Příhoda ([2], [3], [4]) we have developed some theory that allows us to describe and give explicit constructions of (possibly infinitely generated) projective modules over some classes of rings. Things work particularly well in the case of semilocal rings, that is, rings that are semisimple artinian modulo its Jacobson radical.

In this talk I want to explain the main ideas of this theory and some of its applications to infinite direct sums of finitely generated modules. The case we understand better (but still not completely) is the one of an infinite direct sum of copies of a single finitely generated artinian module [1].

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