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Weak Krull-Schmidt theorem

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Abstract: Recently, A. Facchini [3] showed that the classical Krull-Schmidt theorem fails for serial modules of finite Goldie dimension and he proved a weak version of this theorem within this class. In this remark we shall build this theory axiomatically and then we apply the results obtained to a class of some modules that are torsionfree with respect to a given hereditary torsion theory. As a special case we obtain that the weak Krull-Schmidt theorem holds for the class of modules that are both uniform and co-uniform. A simple example shows that this generalizes the result of [3] mentioned above.

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