COPRIME COMODULES AND COALGEBRAS

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The importance of primeness conditions for modules and algebras rises the questions of the relevance of such conditions for comodules and coalgebras. Since comodules for coalgebras C over a commutative ring R can be considered as modules over the dual algebra $C^* = \mathrm{Hom}_R(C, R)$ (provided $_RC$ is locally projective), the notions can be transferred easily from modules to comodules. It turns out that the primeness conditions are very restrictive for coalgebras whereas the dual versions of these conditions are covering wider classes of comodules and coalgebras. In the talk an outline of these ideas will be given including recent results by Indah Wijayanti.