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Links between prime ideals in serial Notherian rings

The concept of ideal links appeared in work of Jategoaonkar [1]. Second layer links between prime ideals in fully bounded Noetherian (FBN) rings appeared in work of Müller (2).

Müller and Singh [3] defined the links between prime ideals in serial rings. So, it is of interest to find Q ⌐ P implies Q ⌐▶ P; where Q and P are prime ideals. Here 'Q ⌐ P' denotes the link from Q to P in a serial ring and 'Q ⌐▶ P' denotes the link from Q to P in a Noetherian ring. Here we were abl to prove that the answer is affirmative, when P and Q are maximal ideals.

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[2] Müller B J. 1976. Localization in fully bounded Noetherian rings. Pacific J. Math. 67 (1976) 233-245.

[3] Müller B J. and Singh, S. 1990. Uniform modules over serial rings II, Proc. Conf.On Rings and Modules, Athens, Ohio, 1989, Lecture Notes in Math. 1448. Springer Verlag. 1990, 25-32.