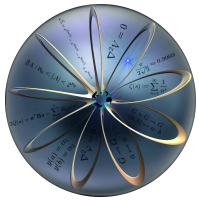

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Krull intersection theorem

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Given a Noetherian ring A, an A-module M, and an ideal I inside the radical of A, we have that M is separated with respect to the I-adic topology.

Furthermore, if A is also an integral domain and $J \subset A$ is a proper ideal, we have

$$\bigcap_{n>0} J^n = (0)$$