

MINIMAL INTERSECTIONS

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ABSTRACT. Let Q be a regular local ring and I and J be ideals of Q contained in the square of its maximal ideal. The the quotient ring $R/(I + J)$ is called a *minimal intersection* if $I \cap J = IJ$. We expand on results of Gheibi and Jorgensen to describe ring-theoretic and homological properties of such rings.

This project is ongoing work that started in May 2020. We currently have some preliminary new results and novel, more concise proofs of known results using homological methods. This is joint work with Luigi Ferraro (Texas Tech), Mohsen Gheibi (University of Texas at Arlington) and Josh Pollitz (University of Utah). We hope to upload a paper to the arXiv by the end of this academic year.