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Jennifer Kenkel*, 530 Church Street, Ann Arbor, MI 48109, and **Uwe Nagel**. *A Construction of Local Cohomology Modules With an FI Structure*. Preliminary report.

Let R_n be a polynomial ring in n variables, and I_n an ideal of R_n . There are many ways to embed R_n into R_{n+1} , and, depending on the situation, many ways to embed I_n compatibly into I_{n+1} . Enforcing certain structure on these embeddings allows us to consider this whole class of rings as one object, known as an FI-algebra. In this talk, I will explain this structure, with lots of examples, and explain how to construct local cohomology modules with an FI-Structure. (Received August 18, 2020)