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Motivation

Modern reactor designs (e.g. HTGRs) are challenging to model

- Gas cooling channel
- Instrumentation and guiding tubes
- Small void or near void volumes with big impact on the flux

Example: Transient Test Reactor TREAT is an air cooled, graphite moderated reactor

- streaming effects in cooling channels
- high scattering ratio (slow convergence)

Figure 1 Sketch of TREAT fuel assembly with graphite region and cooling channels

Second slide

This can be omitted

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