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Averaging inside the LRS family

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Averaging problem in GR and cosmology is of fundamental importance. It is still not clear how to unambiguously average Einstein equations and the metric tensor. One of the most promising attempts how to deal with averaging in GR are the Buchert equations. However, only scalar part of the Einstein equations is averaged and the system is not closed. Here we will present LRS (locally rotationally symmetric) spacetimes, where one can find preferred spatial direction and the evolution and the constraint equations are described only by scalars. By averaging these scalars we will obtain generalized Buchert equations (for LRS spacetimes), which form the closed system and constraints are preserved in time.