

MIMO Enhancements for Rel-18

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Motivation

- NR-MIMO was introduced at the very 1st Release of NR, i.e. Rel-15, to fulfil the initial 5G eMBB requirements of throughput, reliability, coverage, etc under various real-life deployment scenarios.
- Along with Rel-16/17, new features, e.g. unified beam indication, SCell beam failure recovery (BFR), multi-TRP/panel operation were and are now being designed and specified. Some of them are not fully completed due to limited time.
- In this contribution, we present our views on which parts of MIMO we would suggest to enhance in Rel-18 for 5G advanced.

MIMO enhancement aspects for Rel-18

- **Beam management**
 - Support UE-initiated/triggered beam management
 - *For the use cases of MPE (maximum permissible exposure) avoidance and L1/L2-centric inter-cell mobility, UE can be the first one to identify such event(s) which requires NW-initiated UE reporting. To conduct time-sensitive reporting in the most recent occasion, UE should be able to initiate reporting.*
- **Multi-TRP/panel**
 - Extend unified beam indication mechanism to multi-TRP/panel operation
 - *Unified TCI states for either joint or separate DL/UL beam indication was defined in Rel-17 for single-TRP operation. To avoid NW configuring UEs with two parallel beam indication mechanisms, it should be extended to Multi-TRP/panel operation in Rel-18.*

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