



mp\_alltoall\_z22v, mp\_sum\_d3, mp\_waitall\_1, mp\_waitany

Record the **self time maximum** (5th column in the timing report) for each of these. Fill in the table below.!

### Communication Overheads

Plot Time CP2K ( $T_{total}$ ) and Time mp\_routines ( $T_{mp}$ ) on the same graph. Are the results what