Synchronization

According to special relativity a row of synchronized clocks will not be synchronized for an observer moving along the line. The clocks will be increasingly out of sync depending on their distance from the observer (and the relative speed).

Suppose clocks are fixed around the edge of a very large spinning disc and are synchronized using a signal from the disc's centre. Stationary observers all around the edge of the disc should then find the moving clocks are out of sync. This is because the distances from an observer to the nearest clocks are different (e.g. $+x_1$ and $-x_2$) despite the slight curvature of the disc. This locally approximates the textbook linear description of non-simultaneity.

Meanwhile there is another stationary observer above the centre of the disc for whom symmetry and equidistance dictate the clocks are still in sync. How can clocks be both synchronized and not synchronized as seen from the same frame at rest?

(The effects predicted by the special theory are obviously mathematically different from those predicted by the general theory and are not eliminated by the disc's radial acceleration.)