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A search for periodicity in multi-component FRB profiles

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A millisecond periodicity in the signal of fast radio bursts (FRBs) has long been searched for, as such a signal could be present if these sources are rapidly rotating neutron stars. Here we report a periodic separation of 218 ms at a 6-sigma significance in the single components of a 3-s long FRB detected by the CHIME/FRB experiment. With its nine or more single components, this FRB represents an outlier in the FRB population. In addition, CHIME/FRB has detected at least two other FRBs showing more than five separate components in their pulse profiles with hints of periodic separations, albeit not as significant as in the first case. I will present the results on these remarkable sources and discuss possible models to explain the observed signal.

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Session Classification: What Can We Learn from a Growing Sample of Fast Radio Bursts?

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