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Cosmic String Interpretation of NANOGrav Pulsar Timing Data

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The NANOGrav Collaboration has recently reported strong evidence for a stochastic common-spectrum process, which we interpret as a SGWB in the framework of cosmic strings. The possible NANOGrav signal would correspond to a string tension $G\mu \in (4 \times 10^{-11}, 10^{-10})$ at the 68% confidence level, with a different frequency dependence from supermassive black hole mergers. The SGWB produced by cosmic strings with such values of $G\mu$ would be beyond the reach of LIGO, but could be measured by other planned and proposed detectors such as SKA, LISA, TianQin, AION-1km, AEDGE, Einstein Telescope and Cosmic Explorer.

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