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Channeling X-rays for Coherence Measurements

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In this report the possibility for radiation coherence measurements in the x-ray energy range will be reported. Thirty years ago, the theory of x rays channeling in capillary systems has been established at basic principles. Later, it was developed extending for any kind of channel-based optical systems being simultaneously proved by various experimental tests. Measurements on diffraction limits could be considered as the most precise ones at fixed radiation frequencies. The purpose of my report is, after brief review of past research, to demonstrate the sensibility of bound x rays to their coherence characteristics that could be future fine probes for advanced x-ray measurements.

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