**Multi-resolution analysis of gravitational-wave signals with the
WDM transform** VALENTIN NECULA, SERGEY KLIMENKO, University of
Florida — Searches for transient gravitational wave signals are often performed in
the time-frequency domain to identify localized excess power of GW signals. Sensi-
tivity of such (burst) searches improves if the energy of the signal can be captured
with a smaller number of the time-frequency components. We present a novel multi-
resolution algorithm based on the Wilson-Daubechies-Meyer time-frequency trans-
form which can efficiently represent GW transients with minimal number of time-
frequency components and significantly improves the sensitivity of burst searches.

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