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Quasitransient regimes of backward Raman amplification of intense x-ray pulses[1] VLADIMIR MALKIN, NATHANIEL FISCH, Princeton University — The backward Raman amplification (BRA) of laser pulses is considered under conditions when important features of the transient BRA survive, while BRA is noticeably affected by damping of the Langmuir wave mediating energy transfer from the pump to the pumped pulse. These quasitransient BRA regimes appear to be relevant to possible principle-of-proof experiments on BRA of intense x-ray laser pulses in plasmas. In particular, such experiments found to be feasible within the parameter range of currently built powerful soft x-ray sources.

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