

## **Uniqueness and stability of inverse space-dependent source problems in hyperbolic bio-heat transfer**

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Let us consider the linear but ill-posed inverse problems concerned with determination of both the temperature and the source in the thermal-wave hyperbolic model of bio-heat transfer in biological tissues. The unknown heterogeneous source includes an unknown space-dependent component that has to be retrieved from extra temperature measurements of the final time or from time-average temperature integral observations. In contrast to the previous research on the parabolic bio-heat transfer model, the present study takes into account for the realistic final speed of heat propagation in biological tissues. The approach to prove the uniqueness and stability is based on integral identities.