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**Leonidas Mindrinos\*** ([leonidas.mindrinos@ricam.oeaw.ac.at](mailto:leonidas.mindrinos@ricam.oeaw.ac.at)), Altenberger Strasse 69, 4040 Linz, Austria. *Reconstructing the optical properties of a medium from the coupled physics PAT/OCT system.*

We consider the inverse problem of reconstructing the electric susceptibility of a sample placed in a multi-modal PAT/OCT system. The dielectric medium is characterized by the frequency dependent electric susceptibility and the Grüneisen parameter. We present a reconstruction method for recovering both parameters from multi-frequency measurements under the Born approximation. The combined system is equivalently transformed to a Fredholm type integral equation whose unique solvability depends on the PAT data. We present numerical examples for simulated data. This is a joint work with P. Elbau and O. Scherzer. (Received September 05, 2018)