Abstract
The present work aims at analyzing the influence of both Lanthanum (La) and Niobium (Nb) when simultaneously doping the PZT ceramic system with the same doping level (x). XRD, SEM, dielectric and piezoelectric measurements were carried out in order to characterize and analyze the suitability of these soft materials as pulse–echo sensors. An optimum doping level is found with best piezoelectric performance and merit figure dhgh for hydrophones.

Keywords
PZT, ferroelectricity, piezoelectricity, soft ceramics, sensors.