

Uday P. Kulavmode, Ultrasound focusing system for hyperthermia, M. Tech. Thesis, Department of Electrical Engineering, Indian Institute of Technology Bombay, 1999.

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Abstract – Ultrasound focusing technique will be having good potential in therapeutic applications like hyperthermia and lithotripsy. In these applications, ultrasound should cause minimum damage and destruction of the normal tissues, at the same time produce high intensity pressure at the lension. For this purpose, focusing of ultrasound is necessary. In this report, system for continuous heating of the target(using microcontroller) is proposed and discussed. Here, a large number of transducers are excited sequentially such that at the target ultrasound is absorbed continuously but other places it occurs for a brief period of time. Thus making the heating more in the tissue at the target than at other places. In the latter part of the report, the test results of different blocks of the system built are discussed. Test results using limited number of transmitters are also described.