



Bifrost Engineering Capabilities

Ceramics

30+ years experience with electro-optic materials, PZTs and other piezoelectrics, conducting ceramics, and polycrystalline diamond products

Design and Modeling

We use Solidworks Pro 2018 for mechanical design work, drawings, etc.

We have the following modeling software for Ultrasonic and piezo applications: Xactex Transducer calculator, PiezoCad, and PZFlex. We utilize up to a 10 core Xeon processor with 64 GB of RAM to run models.

Transducer Experience

Temperatures to 450 °C (composites to about 185 °C, PZT's to about 350 °F, Lead Metaniobates to about 300 °C, Bismuth Titanates to about 450 °C)

Frequencies to 30 MHz

Bandwidths as required (high bandwidth especially)

Sizes from 1 mm diameter to 3+” diameter

Focus to F1

Gamma and Neutron resistant (qualified for nuclear environments)

MRI compatible experience

Applications include contact (flaw detection, thickness gauges, angle beams, other NDT), immersion (imaging NDT, level sensing, flow measurement), time of flight (distance measuring, thickness measuring, density measurement), Doppler (flow measurement of both liquids and gases), power applications (nebulizers, de-scalers, difficult distance measurements, and wastewater treatment systems), actuation (movement related applications, sounders, fans, pumps), and medical (therapeutic, diagnostic, and instrumentation such as air-in-lines), etc.