



*Fig. E.4:* Annotated photograph and schematic of the resonant inductive coupling arrangement used to transfer 4 MHz signals into the rotating frame. A parallel (nearly) resonant circuit is connected to the ultrasound velocimetry unit via coaxial cable and a series (nearly) resonant circuit is connected to the ultrasound transducer. The photograph shows the physical layout of the system implemented on the three meter apparatus, with the lab-frame ring (a) and tuning capacitor (c) comprising the parallel resonant circuit connected to the UVP monitor and the rotating ring (b) and capacitor (d) connecting to the transducer in the rotating frame.