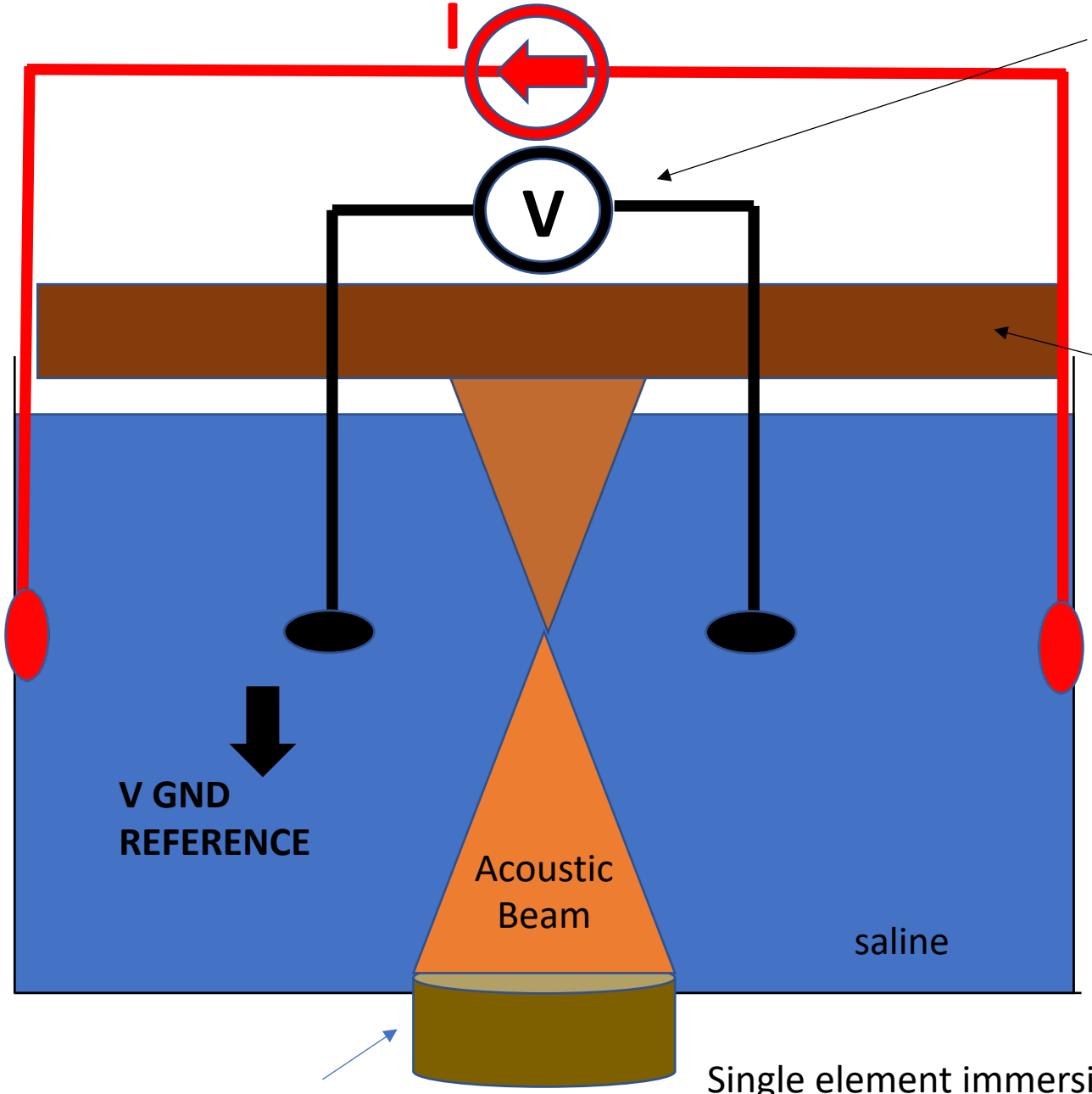
Expt set up for stimulation

- Measure Acoustoelectric Voltage signal.
- Measure focal size of ultrasound where field is created. i.e. what is the focal size of the field modulation? We can determine this by moving the AE measurement electrodes along the axis of the lead current.
- Measure the current density in space by moving the acoustic transducer.
- Measure Pulse Echo signal(PE) for assessment of this technique for read purposes.
- Hydrophone for measuring applied acoustic pressure at focal point.
- Map the 2D potential field using a roving monopolar electrode.



AE measurement: Distance AE between measurement electrodes is assumed far field so no interference from acoustic beam.

Acoustic Damping Material

We expect a voltage oscillation at the ultrasound frequency.

$$dV = K'i\rho_0 dP$$

$$\frac{\delta\sigma_{AE}}{\sigma} = kP$$

- small, cylindrical tank (140 mm diameter, 60 mm height)

Single element immersion ultrasound transducer(1Mhz), pulsed at 2kHz, unipolar pulses