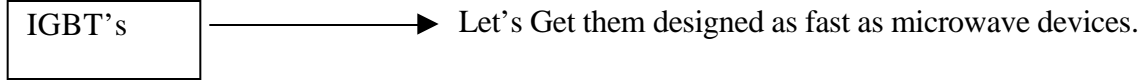


REVIEW OF SESSION 2.2 - KLYSTRON-MODULATOR DESIGN

Ron Koontz (chairman)

SLAC

SOLID-STATE FAST PULSE MODULATORS



CIRCUIT TOPOLOGY

- All IGBTs at Ground Level Induction Modulator → Magnetic Stacking, as Cassel & Co, SLAC for
- IGBTs stacked to 80 kV KEK, Akemoto. Driving 2 klystrons → Hybrid Modulator, as DTI solution (SBIR - II), and
- IGBT modulator units, Induction powered and Discharged in series. Driving 1 – 2 klystrons. → North Star, Richard Adler (SBIR-I)
- IGBT driving Fractional Turn modulator, with 1 klystron. → CREWSON Eng. W. Crewson.
- MARX IGBT modulator (No Iron cored transformer) Driving 2 klystrons → DTI, Michael Kempkes, SBIR – II
- IGBT stack with Iron Core transformer. To 500 kV to drive 8 klystrons. → DTI, Michael Kempkes, SBIR – II
- Thyristor Modulators → APP, C. Glidden, SBIR – I
- Long-Life thyratrons → MARCONI Applied Technology, R. Shel Drake.