

C-Band RF Main Linac System for e^+e^- Linear Collider at 500 GeV to 1 TeV C.M. Energy,

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Osamu Takeda, TOHIBA - C-band (5712 MHz) RF system has been proposed as the optimum frequency for the main linac in e^+e^- linear collider. C-band frequency has been chosen to meet several demands: higher system power efficiency, the beam luminosity as high as $10^{34}/\text{cm}^2/\text{sec}$ within reasonable site length, maintaining the requested technology for hardware development as realistic level, lowering the stress on high power devices to keep long life time, and lower the fabrication cost. Following discussions will be given, (1) hardware rf system overview, (2) power efficiency of AC to rf, (3) modulator design, how to improve the pulse efficiency, (4) klystron output energy level and focusing power, (5) pulse compressor design, (6) waveguide system, (7) accelerating structure, (8) girder and alignment issue and (9) cost estimation.