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Low Field Tuning. Effect of Shorting 8 RF Cavities

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At the beginning of the period the machine was operating at $>7\times10^{12}$ per pulse. Considerable time was spent on photographing various signals at this intensity level. Very minor readjustments of the 8 parameters were made and only the 9th harmonic low-field correction was trimmed. The latter produced a few pulses $>8\times10^{12}$ accelerated. Considerable transition loss ($\simeq 1.5\times10^{12}$) was present at these levels when attempts were made to carry the beam to higher energies. At 1000 the AGS was turned off to install shorts across 8 of the thin 8 stations. By 1200 beam was again injected. Acceleration for $\simeq 50$ msec was possible but the early rapture using the low voltage capture mode was still $\simeq 7.5\times10^{12}$. A faster rise from level 1 to level 2 than what had been used previously (now $\simeq 6.7\times10^{12}$ while a slow rise with a lower level 1 and programmed frequency (now $\simeq 7.3\times10^{12}$. Since it appeared that level 2 was not high enough with two stations on the shorts were removed from 2 of the 8 leaving 6 stations. The results with four were no better than two or the stations and increasing instability of the injection system made further tests useless. The remaining stations were put back on the air and after some fine adjustments beam was again accelerated with intensities of $>7\times10^{12}$. However the instabilities at injection became worse and tuning was not possible. [redacted]