accelerating fields of many proton bunches acting on a few initial thermal electrons. A simple calculation indictes the possible severity of the problem.

Let N_o = number of initial electrons

N_n = number of electrons after passage of n proton bunches

Y = average secondary electron yield

$N_n = Y^n N_o$.

We have calculated Y for both the short and long bunch cases for PSR, and for aluminum and stainless steel vacuum chamber walls:

	Short	Long
Aluminum	1.41	1.50
Stainless Steel	1.14	1.30

The figures for Al assume relatively clean surface. A possible result of electron multipactoring is desorption of gas from the walls. The above figures, if anywhere near the truth, indicate strong electron buildup and possibly a severe problem. SPEAR has not reported any such prolem, but there are worries about this at Isabelle. There is some fear that electrostatic position monitors may not work. We are investigating this problem with a hardware simulation.

Suggestion from audience is to flash titanium on the surface and forget it.

P. Apparatus for Measuring Beam Induced Electron Multipactoring, G. Spalek, LASL

The surface of the wire becomes part of the experiment. Does not simulate actuality. These are very small wires, but fields are high (completely different). We could read current on the central wire to see if we have a two-surface effect. Flashing Ti is expensive for the whole ring. Titanium pumps and holds gas, worry about pressure bumps. Titanium chambers are better for pressure bumps. Investigate CERN and PEP experience.

Q. Disk and Washer Structure, S. O. Schriber, CRNL

Efficiency of converting rf power to useful beam power was improved by the shaping of cavities as in the high-energy portion of LAMPF and other operating accelerators in the standing wave mode. Additional advantages