



## **Richard Thorne in His Early Years at UCLA: EMIC Waves, Chorus, Plasmaspheric Hiss and Relativistic Electrons**

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Richard Mansergh Thorne was the pioneer and leading light in research on magnetospheric plasma waves, instabilities and wave-particle interactions. Although fundamentally a theorist, Richard also looked at the data and often first authored plasma wave data papers! That was a unique trait and was a possible reason why he was such an exceptional plasma physicist.

Richard was brought to UCLA by Charlie Kennel (Kennel and Petschek, 1966) who is the father of modern space plasma physics (I will explain in the talk). I will cover Richard's early years as Professor in the Meteorology Department. Richard served as the theorist in a small team which consisted of Bob Holzer (Professor in the physics department and thesis advisor of Ed Smith and Chris Russell), Ed Smith (JPL and P.I. of the OGO-1, -3 and -5 searchcoil magnetometers), myself and one or two Holzer PhD students. In those days the P.I. and his team (Holzer was the only Co-I on all three plasma wave experiments) were responsible for not only building and calibrating the instrument, but for all of the data analyses and scientific results. Data were not distributed to "outsiders" then. In sharp contrast, today data taken on NASA spacecraft are now in the public domain. I will discuss the wonderful working relationships that we had in that group and the prodigious amount of science that Richard produced during that period of his career. I became good friends with Richard and we did many fun things outside of physics as well.