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THEODORE VON KÁRMÁN, THE CALIFORNIA INSTITUTE OF TECHNOLOGY, AND THE JET
PROPULSION LABORATORY: “ROCKETS” FOR PLANES: THE DEVELOPMENT OF RATO**Abstract**

As part of a larger project on early space history, this paper has two major components, one organizational and one technological. On the one hand, Theodore von Kármán working at GALCIT and organizer of the JPL deserves a brief overview. Kármán was a brilliant aeronautical engineer who expanded his interests to include astronautics in the early days of space research. He and his team were on the cutting edge of rocket research during the Great Depression, tapping into university and government funds. But instead of working on space rockets specifically (although that was also in the curriculum), the new JPL accepted contracts from the U.S. Government for very specific ‘rocket’ projects. The focus of this presentation will be on the technology developed at JPL in the years leading up to and during World War II. While the JPL was interested in space, and worked on that as well, government money directed the research into very specific applications for military improvements. One area of research was Rocket Assisted Take Off (RATO) sometimes referred to as Jet Assisted Take Off (JATO) for the ‘jet’ of gas released from the cannister. RATO was either a solid or liquid fueled rocket cannister, strapped to a piston-engine aircraft, to provide a quick burst of energy to push the aircraft into the air more quickly. Early tests were done on large, lumbering seaplanes to push them into the air by shortening take off distance. While the Germans were working on actual rocket planes, the U.S. was looking for ways to use new technology to improve existing capabilities. This paper is the story of the wartime technology of the JPL, before they shifted focus to space.