KuaFu Mission: The scientific payload of KuaFu-A

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The KuaFu mission would consist of three satellites: KuaFu-A and KuaFu B1 and B2. KuaFu-A would be operated in the Sun-Earth L1 region, while the satellite pair KuaFu-B1 and -B2 fly on identical Earth polar orbits. The mission is designed to explore solar disturbances and their ultimate effects on the near-Earth space, including solar flares, CMEs, interplanetary clouds, shock waves, and their respective geo-effects, such as magnetospheric substorms, magnetic storms, and auroral activities. The launch of KuaFu is suggested in 2012. KuaFu-A would be instrumented to continuously observe the solar disk in EUV/FUV emission, to register Coronal Mass Ejections (CMEs) in white light and Lyman-alpha radiation; to trace CME propagation by radio wave measurements; and to measure the local solar wind plasma and magnetic field, and solar energetic particles. Besides, measurements of hard X-ray and Gamma-ray spectrum and solar irradiance would also be carried out on KuaFu-A. In this poster, we outline the payload of KuaFu-A and its scientific and space weather objectives.