Pressure-induced magnetic phase transitions in the two-dimensional ferromagnet Cs$_2$CuF$_4$ ISAO YAMADA, Department of Physics, Chiba University, Japan, MAMORU ISHIZUKA, Osaka University, Japan, HIROTAKA MANAKA, Kagoshima University, Japan — Since both the interlayer and intralayer ferromagnetic exchange interactions in Cs$_2$CuF$_4$ are closely correlated with the orbital state of Cu$^{2+}$, we expect pressure-induced magnetic phase transitions in this compound because pressure can change the orbital state of Cu$^{2+}$. To confirm this expectation, we performed magnetic susceptibility measurements at several pressures up to around 25 GPa over the temperature range from 1.5 to 18 K, using a diamond anvil cell and a SQUID vibrating coil magnetometer. The results show successive magnetic transitions around 2 GPa and 23 GPa, which correspond to changes of the interlayer and the intralayer exchange interactions from ferromagnetic to antiferromagnetic, respectively.