1147-14-829 **Marie José R. Bertin*** (marie-jose.bertin@imj-prg.fr), Sorbonne Université, IMJ-PRG, 4 Place Jussieu, 75252 Paris, France, and **Odile Lecacheux**. *Apéry-Fermi family of $K3$-surfaces and their 2-isogenies.*

Given a generic $K3$-surface Y_k of the Apéry-Fermi pencil defined by the equations

$$X + \frac{1}{X} + Y + \frac{1}{Y} + Z + \frac{1}{Z} = k, \quad k \in \mathbb{C},$$

we use the Kneser-Nishiyama technique to determine all its non isomorphic elliptic fibrations.

These computations lead to determine those fibrations with 2-torsion sections T. We classify the fibrations such that the translation by T gives a Shioda-Inose structure. The other fibrations correspond to a $K3$-surface identified by its transcendental lattice.

The same problem is solved for a singular member Y_2 of the family (i.e. with Picard number 20) showing the differences with the generic case. In conclusion, we put our results in the context of relations between 2-isogenies and isometries on the singular surfaces of the family. (Received January 29, 2019)