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Shell model study of typical sd-shell hypernuclei ATSUSHI UMEYA, RIKEN, TOSHIO MOTOBA, TORU HARADA, Osaka Electro-Communication Univ. — Theoretical and experimental studies of s- and p-shell hypernuclei have been performed and, in the future, experiments of sd-shell hypernuclei will be carried out at J-PARC. The level structures of sd-shell nuclei are richer and more complex than those of p-shell nuclei. For example, the states of ^{19}F have the following structures; (i) the energy difference between the $1/2^+$ ground state and the $1/2^-$ first-excited state is only 0.110 MeV and (ii) a rotational band is seen in the energy spectrum. Thus we are interested in effects of the ΛN interaction on the parity doublet and the rotational band in the sd-shell hypernuclei. Also, an effects of a positive pairing correlation in the ΛN interaction may reveal in the structures of the sd-shell hypernuclei because of the $0d_{5/2}$ orbit with the higher spin. In this presentation, we will discuss the structures of $^{19}_{\Lambda}$F and $^{20}_{\Lambda}$F obtained by shell-model calculations with $0\hbar\omega$ and $1\hbar\omega$ model spaces.

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