

## Interference effect between $\phi$ and $\Lambda(1520)$ production channels in the $\gamma p \rightarrow K^+ K^- p$ reaction near threshold

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The  $\phi$ - $\Lambda(1520)$  interference effect in the  $\gamma p \rightarrow K^+ K^- p$  reaction has been measured for the first time in the energy range from 1.673 to 2.173 GeV at LEPS/SPring-8. The relative phases between  $\phi$  and  $\Lambda(1520)$  production amplitudes were obtained in the kinematic region where the two resonances overlap. The measurement results support strong constructive interference when  $K^+ K^-$  pairs are observed at forward angles, but destructive interference for proton emission at forward angles. Furthermore, the observed interference effect does not account for the  $\sqrt{s} = 2.1$  GeV bump structure in forward differential cross sections for  $\phi$  photo-production. This fact suggests possible exotic structures such a hidden-strangeness pentaquark state, a new Pomeron exchange and rescattering processes via other hyperon states.

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