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3-dimensional electronic structures of CaC6 WONSHIK KYUNG, Yonsei Univerisity, YEONGKWAN KIM, GARAM HAN, CHOONSHIK LEEM, Yonsei University, JUNSUNG KIM, YEONGWOOK KIM, Postech, KEUNSU KIM, ELI ROTENBERG, Advanced Light Source, CHANGYOUNG KIM, Yonsei University, YONSEI UNIVERSITY TEAM, POSTECH COLLABORATION, ADVANCED LIGHT SOURCE COLLABORATION — There is still remaining issues on origin of superconductivity in graphite intercalation compounds, especially CaC6 because of its relatively high transition temperature than other GICs. There are two competing theories on where the superconductivity occurs in this material; intercalant metal or charge doped graphene layer. To elucidate this issue, it is necessary to confirm existence of intercalant driven band. Therefore, we performed 3 dimensional electronic structure studies with ARPES to find out 3d dispersive intercalant band. However, we could not observe it, instead observed 3d dispersive carbon band. This support the aspect of charge doped graphene superconductivity more than intercalant driving aspect.

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