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Evidence of Strong Coupling in Antiferromagnetic Ordered Iron Chalcogenide $Fe_{1.02}Te$ Observed by Photoemission
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The role of many-body effects is one of the central questions for unconventional superconductivity. For the recently discovered iron-based superconductors, the strength of electronic correlations is still an unsettled issue. For one of them, iron chalcogenides, a strong correlation scenario has both been proposed by theory and suggested by experiments. However, the metallic behavior in the antiferromagnetic ordered state in $Fe_{1.02}Te$ seems to deviate from such scenario. Our discovery of evidence of strong coupling in electronic band-structure probed by angle resolved photoemission (ARPES) reconciles this contrast. Our finding also highlights the non-trivial enrichment of many-body effects when multiple ingredients of interactions reinforce each other.

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