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(54) **LITHIUM ION-CONDUCTIVE OXIDE AND ALL-SOLID-STATE BATTERY**

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(57) **ABSTRACT**

A lithium ion-conductive oxide or an all-solid-state battery, wherein the lithium ion-conductive oxide has a crystal structure based on $LiTa_2PO_8$, and has at least lithium, tantalum, boron, phosphorus, oxygen, and fluorine as constituent elements, wherein a boron content represented by the following formula (1) is 4.0 to 15.0%, and a fluorine content represented by the following formula (2) is 0.5 to 2.0%:

$$\text{The number of B atoms/ (the number of B atoms+the number of P atoms)} \times 100 \quad (1)$$

$$\text{The number of } F \text{ atoms/ (the number of O atoms+the number of F atoms)} \times 100. \quad (2)$$