High-power all-solid-state batteries using sulfide superionic conductors

Who are the authors of high-power all-solid-state batteries using sulfide superionic conductors?
Title High-power all-solid-state batteries using sulfide superionic conductors Author Yuki Kato; Satoshi Hori; Toshiya Saito; Kota Suzuki; Masaaki Hirayama; Akio Mitsui; Masao Yonemura; Hideki Iba; Ryoji Kanno

Are lithium superionic conductors suitable for all-solid-state batteries?
Despite extensive research e?orts, the development of all-solid-state batteries still falls short of expectation largely because of the lack of suitable candidate materials for the electrolyte required for practical applications. Here we report lithium superionic conductors with an exceptionally high conductivity (25mScm1for Li

Can lpscb accelerate the commercialization of sulfide-based all-solid-state batteries?
Our results pro-vide new insights into the ion transport mechanism of superionic conductors and demonstrate that LPSCB is one of the most promising candidatesfor accelerating the commercialization of sulfide-based all-solid-state batteries.

Are all-solid-state batteries better than lithium-ion batteries?
Provided by the Springer Nature SharedIt content-sharing initiative Compared with lithium-ion batteries with liquid electrolytes, all-solid-state batteries offer an attractive option owing to their potential in improving the safety and achieving both high power and high energy densities.

Can all-solid-state battery achieve high energy and high power densities?
Therefore,the all-solid-state battery has been proposed and researched as a potential candidateamong various electrochemical energy storage devices for achieving both high energy and high power densities 6. Moreover,the solidification of the electrolyte provides an additional advantage for use in battery applications.

Which lithium secondary batteries are used as solid electrolytes?
All-solid-state lithium secondary batteries using the 75Li 2 S25P 2 S 5glass and the 70Li 2 S30P 2 S 5glass-ceramic as solid electrolytes. J. Power Sources233, 231235 (2013). 11.Kwon, O. et al. Synthesis, structure, and conduction mechanism of the lithium superionic conductor Li 10+ Ge 1+ P 2 S 12 J. Mater. Chem.

This article discusses the development of high-power all-solid-state batteries using lithium superionic conductors, specifically Li9.54 Si1.74 P1.44 S11.7 Cl0.3 and Li9.6 P3 S12, which exhibit exceptional ionic conductivity and ...

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