

5th International Conference and Expo on

SEPARATION TECHNIQUES

October 23-25, 2017 | Paris, France

Development and application of high-performance ion conducting membrane for vanadium flow battery

Huamin Zhang^{1,2}¹DICP, Chinese Academy of Sciences, China²Dalian Rongke Power Co. Ltd., China

Vanadium flow batteries (VFBs) have become one of the most promising technologies for large-scale energy storage applications due to their attractive features of high safety, high performance-price ratio in life cycle and environmental friendliness. Currently, VFBs are at the stage of demonstration, and the practicability and reliability of VFBs in large-scale energy storage applications were verified by numerous demonstrations. To promote the wide application of VFBs, the cost reduction is extremely important. Concerning the above issue, on the one side, it is in need to develop the high-performance ion conducting membrane and electrolyte. This report will focus on the latest progress of high-performance porous non-perfluorinated ion conducting membrane for application on vanadium flow battery.

Biography

Huamin Zhang currently serves as a full professor at Dalian Institute of Chemical Physics (DICP), Chinese Academy of Science (CAS); He is also CTO of Dalian Rongke Power Co., Ltd, director of the state key lab of flow battery for energy storage. He received his MS and PhD degree from Kyushu University in 1985 and 1988 respectively. And he joined in DICP as a full professor in 2000. His research interests include the topic of energy and energy storage, e.g. fuel cells, flow batteries and batteries with high specific energy density. Professor Zhang has co-authored more than 260 research papers published in refereed journals and more than 150 patents. He has received numerous awards from Chinese Government including outstanding Science and Technology Achievement Prize of the Chinese Academy of Sciences, National Technology Invention Award and Dalian Technology Invention Award etc.

zhanghm@dicp.ac.cn

Notes: