

ТЕЗИСЫ ДОКЛАДОВ

**МЕЖДУНАРОДНАЯ КОНФЕРЕНЦИЯ
«Перспективные материалы с иерархической структурой
для новых технологий и надежных конструкций»**

**X МЕЖДУНАРОДНАЯ КОНФЕРЕНЦИЯ
«Химия нефти и газа»**

Томск

Издательский Дом ТГУ

2018

1

Секция 7. Сварка, родственные процессы и технологии для создания технических систем ответственного и специального назначения, в том числе для эксплуатации в экстремальных условиях и низких климатических температур Арктики и Крайнего Севера

DOI: 10.17223/9785946217408/348

FEASIBILITY OF SPHERICAL-SHAPED TOOL-PROBE FOR FRICTION-STIR WELDING OF AL-MG-MN SHEETS

Malopheyev S, Vysotskiy I., Mironov S., Kaibyshev R.
Belgorod State University, Pobeda 85, Belgorod 308015, Russia

In the present work, a new design for the friction-stir welding (FSW) tool was introduced. The newly developed tool included a conventional concave-shaped shoulder and a semi-spherical probe. The semi-spherical geometry of the tool probe was suggested to enhance material flow during FSW and thus to widen the FSW processing window.

The feasibility of the new tool design as well as its effect on microstructure and properties of the produced welds were for studied

This study was financially supported by the Russian Science Foundation, grant No. 18-79-10174