

2025 年发明创业创新奖项目公示内容

项目名称：金属复杂薄壁构件高速冲击液压成形技术与装备

提名者：中国科学院金属研究所

知识产权情况：

序号	论文题目	刊名	作者
1	Revealing the dynamic behavior and micromechanisms of enhancing the formability of AA1060 sheets under high strain rate deformation	Journal of Materials Research and Technology	Yong Xu, Liangliang Xia, Abd El-Aty Ali, Wenlong Xie, Shuaifeng Chen, Khina Boris B, Pokrovsky Artur I, Shihong Zhang
2	A novel method to evaluate the high strain rate formability of sheet metals under impact hydroforming	Journal of Materials Processing Technology	Dayong Chen, Yong Xu, Shihong Zhang, Yan Ma, Abd El-Aty Ali, Banabic Dorel, Pokrovsky Artur I, Bakinovskaya Alina A
3	Spring-back behaviors of Ti-6Al-4V sheet under effect of strain rate	International Journal of Mechanical Sciences	Hao Li, Sirui Xie, Shihong Zhang, Shuaifeng Chen, Hongwu Song, Yong Xu, Pokrovsky Artur I, Khina Boris B
4	A novel strategy for reducing sheet springback by coupled with high strain rate and shear deformation via impact hydroforming	Journal of Manufacturing Processes	Liangliang Xia, Yong Xu, Wenlong Xie, Jie Li, Xuefei Liu, Pokrovsky Artur I, Shihong Zhang
5	Deformation characteristics and inertial effect of complex aluminum alloy sheet part under impact hydroforming: experiments and numerical analysis	Advances In Manufacturing	Liangliang Xia, Shihong Zhang, Yong Xu, Shuaifeng Chen, Khina Boris B, Pokrovsky Artur I
6	2195 铝锂合金板材高速拉伸力学	稀有金属材料与工程	徐勇, 尹阔, 夏亮亮, 陈帅峰,

	特性和变形机理		门向南, 邓涛, 王煜, 张士宏
7	Impact hydroforming characteristics for a half-tube part with curvature	Chinese Journal of Aeronautics	Hongliang Zhu, Yong Xu, Boris B. KHINA, Wenlong Xie, Shihong Zhang, Liangliang Xia, Mingyu Gao, Artur I. POKROVSKY
8	Improving strength of aluminum-lithium alloy by a novel thermomechanical treatment under impact hydroforming process	Transactions of Nonferrous Metals Society of China	Hongliang Zhu, Yong Xu, Wenlong Xie, Shihong Zhang, Xiuwen Lv, Muhammad Farooq Saleem, Artur I.Pokrovsky, Boris B.Khina
9	高应变速率下铝合金增塑降弹效应研究	中国机械工程	夏亮亮, 徐勇, 李杰, 解文龙, 刘雪飞, 张士宏
10	高能率冲击液压成形设备设计及复杂铝合金零件成形	兵器装备工程学报	马彦, 陈大勇, 徐勇, 陈帅峰, 张士宏, 宋鸿武

专利情况:

序号	专利名称	专利号	法律状况
1	高能率脉动冲击液压成形方法	ZL201610814955.X	授权
2	高能率脉动冲击液压成形设备	ZL 201621045741.2	授权
3	一种复合冲击体、冲击液压成形设备及冲击液压成形方法	ZL 202110564767.7	授权
4	一种成形-冲孔-翻边一体化的冲击液压成形模具及方法	ZL 202111613058X	授权
5	一种板材冲击液压成形回弹评测方法	ZL 202111374209.0	授权
6	压边补料一体化的冲击液压成形模具及冲击液压成形方法	CN202310414051.8	公开

主要完成人: 张士宏; 徐勇; 宋鸿武; 陈大勇; 马彦; 夏亮亮

主要完成单位: 中国科学院金属研究所