

23(2)

## The Waring-goldbach Problem for Unlike Powers

Xiu Min REN, Kai Man TSANG

Department of Mathematics, Shandong University, Ji'nan 250100, P. R. China Department of Mathematics, The University of Hong Kong, Pokfulam, Hong Kong, P. R. China

收稿日期 2003-9-10 修回日期 网络版发布日期 2007-1-16 接受日期 2004-4-19

摘要

关键词 [Waring--Goldbach problem](#) [Circle method](#) [Exceptional set](#)

分类号 [11P32](#)

## The Waring-goldbach Problem for Unlike Powers

Xiu Min REN, Kai Man TSANG

Department of Mathematics, Shandong University, Ji'nan 250100, P. R. China Department of Mathematics, The University of Hong Kong, Pokfulam, Hong Kong, P. R. China

**Abstract** In this paper, it is proved that with at most  $O(N^{\frac{65}{66}})$  exceptions, all even positive integers up to  $N$  are expressible in the form  $p_2^2+p_3^3+p_4^4+p_5^5$ . This improves a recent result  $O(N^{\frac{19193}{19200}+\varepsilon})$  due to C. Bauer

**Key words** [Waring--Goldbach problem](#) [Circle method](#) [Exceptional set](#)

DOI: 10.1007/s10114-005-0733-z

通讯作者 Xiu Min REN [xmren@sdu.edu.cn](mailto:xmren@sdu.edu.cn)

### 扩展功能

#### 本文信息

- ▶ [Supporting info](#)
- ▶ [PDF\(0KB\)](#)
- ▶ [\[HTML全文\]\(0KB\)](#)
- ▶ [参考文献](#)

#### 服务与反馈

- ▶ [把本文推荐给朋友](#)
- ▶ [加入我的书架](#)
- ▶ [加入引用管理器](#)
- ▶ [复制索引](#)
- ▶ [Email Alert](#)
- ▶ [文章反馈](#)
- ▶ [浏览反馈信息](#)

#### 相关信息

- ▶ [本刊中 包含 “Waring--Goldbach problem” 的相关文章](#)
- ▶ [本文作者相关文章](#)
- [Xiu Min REN](#)
- [Kai Man TSANG](#)