

Publicationes Mathematicae Debrecen **Year: 2024** **Vol.: 105** **Fasc.: 3-4**

**Title:** Waring's problem with restrictions on  $q$ -digital functions

**Author(s):** Karam Aloui and Walid Wannes

The present paper is devoted to generalize earlier works of Thuswaldner–Tichy, Pfeiffer–Thuswaldner and Wagner on Waring's problem with digital constraints to systems of restrictions on  $q$ -digital functions. The result follows from estimates of corresponding exponential sums.

**Address:**

Karam Aloui  
Université de Tunis El Manar  
Institut Supérieur des  
Technologies Médicales de Tunis  
9 Rue Zouhair Essafi  
1006 Tunis  
Tunisia

and

Université de Sfax  
Laboratoire d'Algèbre,  
Géométrie et Théorie Spectrale  
Route de la Soukra, km 3.5  
3000 Sfax  
Tunisia

**Address:**

Walid Wannes  
Mathematics Education Section  
Faculty of Education and Arts  
Sohar University  
P.O. Box: 44  
Postal Code: 311 Sohar  
Sultanate of Oman