

Publicationes Mathematicae Debrecen Year: 2023 Vol.: 102 Fasc.: 1-2

**Title:** On Dini derivatives of real functions

**Author(s):** Alessandro Fonda, Giuliano Klun and Andrea Sfecci

For a continuous function  $f$ , the set  $V_f$  made of those points where the lower left derivative is strictly less than the upper right derivative is totally disconnected. Besides continuity, alternative assumptions are proposed so to preserve this property. On the other hand, for any given totally disconnected closed set  $A$ , we construct a function  $f$  whose set  $V_f$  coincides with the entire domain, and  $f$  is continuous on  $A$ .

**Address:**

Alessandro Fonda  
Dipartimento di Matematica  
e Geoscienze  
Università di Trieste  
P.le Europa 1  
I-34127 Trieste  
Italy

**Address:**

Giuliano Klun  
Scuola Internazionale Superiore  
di Studi Avanzati  
Via Bonomea 265  
I-34136 Trieste  
Italy

**Address:**

Andrea Sfecci  
Dipartimento di Matematica  
e Geoscienze  
Università di Trieste  
P.le Europa 1  
I-34127 Trieste  
Italy