

Year: 2014

Vol.: 85

Fasc.: 1-2

**Title:** On the Moore–Penrose inverse of a closed linear relation

**Author(s):** Teresa Álvarez

For a closed multivalued linear operator  $T$  between complex Hilbert spaces the concept of Moore–Penrose inverse of  $T$ , denoted  $T^\dagger$ , is introduced and studied. We prove that if  $y \in D(T^\dagger)$ , then  $T^\dagger y$  is the least square solution of minimal norm of the relation equation  $y \in Tx$ . We also approximate  $T^\dagger$  by a sequence of bounded finite rank operators. Such results generalize the existing results to the case of densely defined closed operators.

**Address:**

Teresa Álvarez  
Department Of Mathematics  
University Of Oviedo  
C/ Calvo Sotelo S/N 33007  
Oviedo, Asturias  
Spain