On Various R-duals and the Duality Principle - DTU Orbit (08/11/2017)

On Various R-duals and the Duality Principle

The duality principle states that a Gabor system is a frame if and only if the corresponding adjoint Gabor system is a Riesz sequence. In general Hilbert spaces and without the assumption of any particular structure, Casazza, Kutyniok and Lammers have introduced the so-called R-duals that also lead to a characterization of frames in terms of associated Riesz sequences; however, it is still an open question whether this abstract theory is a generalization of the duality principle. In this paper we prove that a modified version of the R-duals leads to a generalization of the duality principle that keeps all the attractive properties of the R-duals. In order to provide extra insight into the relations between a given sequence and its R-duals, we characterize all the types of R-duals that are available in the literature for the special case where the underlying sequence is a Riesz basis.

General information

State: Published
Organisations: Department of Applied Chemistry, Department of Applied Mathematics and Computer Science , Mathematics , Acoustics Research Institute
Authors: Stoeva, D. T. (Ekstern), Christensen, O. (Intern)
Pages: 577-590
Publication date: 2016
Main Research Area: Technical/natural sciences

Publication information

Journal: Integral Equations and Operator Theory
Volume: 84
Issue number: 4
ISSN (Print): 0378-620X
Ratings:

BFI (2017): BFI-level 1

Web of Science (2017): Indexed Yes

BFI (2016): BFI-level 1

Scopus rating (2016): CiteScore 0.78 SJR 1.057 SNIP 1.086

Web of Science (2016): Indexed yes

BFI (2015): BFI-level 1

Scopus rating (2015): SJR 1.325 SNIP 1.271 CiteScore 0.93

BFI (2014): BFI-level 1

Scopus rating (2014): SJR 1.201 SNIP 1.365 CiteScore 0.83

BFI (2013): BFI-level 1

Scopus rating (2013): SJR 1.15 SNIP 1.181 CiteScore 0.8

ISI indexed (2013): ISI indexed yes

BFI (2012): BFI-level 1

Scopus rating (2012): SJR 1.204 SNIP 1.301 CiteScore 0.81

ISI indexed (2012): ISI indexed yes

BFI (2011): BFI-level 1

Scopus rating (2011): SJR 1.045 SNIP 0.993 CiteScore 0.62

ISI indexed (2011): ISI indexed yes

BFI (2010): BFI-level 1

Scopus rating (2010): SJR 0.773 SNIP 0.936

BFI (2009): BFI-level 1

Scopus rating (2009): SJR 1.027 SNIP 0.779

BFI (2008): BFI-level 1

Scopus rating (2008): SJR 0.828 SNIP 0.773

Scopus rating (2007): SJR 1.247 SNIP 1.431

Scopus rating (2006): SJR 0.855 SNIP 0.923

Scopus rating (2005): SJR 1.142 SNIP 1.222

Scopus rating (2004): SJR 0.979 SNIP 1.236

Scopus rating (2003): SJR 1.371 SNIP 1.292

Scopus rating (2002): SJR 0.985 SNIP 0.869

Scopus rating (2001): SJR 1.115 SNIP 1.129

Scopus rating (2000): SJR 0.896 SNIP 0.87