



Mathematics > Functional Analysis

# Frames and Bases in Tensor Product of Hilbert Spaces

Amir Khosravi, Mohammad Sadegh Asgari

(Submitted on 31 Mar 2012)

In this article we develop a theory for frames in tensor product of Hilbert spaces. We show that like bases if  $Y_1, Y_2, \dots, Y_n$  are frames for  $H_1, H_2, \dots, H_n$ , respectively, then  $Y_1 \otimes Y_2 \otimes \dots \otimes Y_n$  is a frame for  $H_1 \otimes H_2 \otimes \dots \otimes H_n$ . Moreover we consider the canonical dual frame in tensor product space. We further obtain a relation between the dual frames in Hilbert spaces, and their tensor product.

Comments: 12 pages  
 Subjects: **Functional Analysis (math.FA)**  
 MSC classes: 41A38, 42C15 and 43A70  
 Journal reference: Intern. Math. Journal, Vol. 4, 2003, no. 6, 527 - 537  
 Cite as: [arXiv:1204.0096v1](https://arxiv.org/abs/1204.0096v1) [math.FA]

## Submission history

From: Mohammad Sadegh Asgari [[view email](#)]  
 [v1] Sat, 31 Mar 2012 12:50:59 GMT (3796kb)

*Which authors of this paper are endorsers?*

Link back to: [arXiv](#), [form interface](#), [contact](#).

## Download:

- [PDF only](#)

Current browse context:

math.FA

< [prev](#) | [next](#) >

[new](#) | [recent](#) | [1204](#)

Change to browse by:

[math](#)

## References & Citations

- [NASA ADS](#)

## Bookmark (what is this?)

