



ISSN: 1889-3066

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Web site: [jja.ujaen.es](http://jja.ujaen.es)

Jaen J. Approx. 10(1) (2018), 49–72

**Jaen Journal**  
**on Approximation**

# Convergence and summability of cardinal sine series

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## Abstract

We consider a class of summability methods for the classical cardinal sine series that are related to the Bernstein-Boas representation of entire functions of exponential type less than  $\pi$ . We provide conditions that ensure regularity of the methods, prove a Tauberian type theorem, and give an example of a function in the Bernstein class  $B_\pi$  whose samples do not give rise to a convergent cardinal sine series and are not summable via the methods that are considered here.

**Keywords:** Bernstein class, cardinal series, sampling theory, summability.

**MSC:** 30B99, 30D10, 40A30, 40G99, 41A05, 94A20.

## §1. Introduction

### 1.1. Extended abstract

The classical cardinal sine series with coefficients  $\{c_n\}_{n=-\infty}^{\infty}$  is defined by

$$\sum_{n=-\infty}^{\infty} c_n \frac{\sin \pi(z-n)}{\pi(z-n)}, \quad (1.1)$$

**Communicated by**  
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**Received**  
April 20, 2017  
**Accepted**  
May 3, 2018