



The new French interactive Guide for Investigations on Structures

Bruno Godart

Paris-Est University, IFSTTAR, Marne La Vallée, France

Christophe Aubagnac

CEREMA, Autun, France

Contacting author: bruno.godart@ifsttar.fr

Abstract

IFSTTAR, in collaboration with the CEREMA, decided to publish in 2015 an interactive guide on the investigations (or auscultation) of bridges which has two main parts. A first part presents more than one hundred auscultation methods for "materials" and "structures" that are sufficiently valid, giving for each method its principle, its field of application, the limits and conditions of use, the specific constraints, the precision of the measurements, as well as elements on the availability and the cost. A second part presents the diagnostic methodologies combining various auscultation methods according to an optimal scheduling in order to know the condition of the structures. The guide is on internet and uses hypertext links to connect all the documents. This guide, which aims to be a simple document to read, pedagogical and didactic, is continuously improved. It may be found at the following address: <http://www.ifsttar.fr/collections/CahiersInteractifs/CII1/index.html>

Keywords: Structure, bridge, guide, investigation, auscultation, methodology, interactive, diagnosis, evaluation.

1. Introduction

Nowadays, owners and managers of transport infrastructure are more and more concerned by actions related to the heritage management, considering:

1. the decrease in investment programs for the construction of new structures;
2. the aging of the heritage, which results in an acceleration of the materials deteriorations under the environmental exposure conditions;
3. a growing aggressiveness of the traffic;
4. an increase of constraints due to the operation of networks resulting from a desire of the users for a greater availability of these networks;

5. the growing requirement for the safety of use of infrastructures.

This is particularly the case in the field of bridges. Many technical documents are existing in France in the field of:

- inspection and evaluation (with the ITSEOA instruction [1] and the IQOA guides [2]);
- repairs and strengthening (with the European standards of the EN 1504 series for repair products, the French standards of the NF P 95-100 series for the execution of repair techniques, the various LCPC (Central Laboratory for Roads and Bridges) technical guides on repair and protection of