

## TEMPLATE FOR THE SUBMISSION OF A POSTER TO ISRA 2007 (TITLE 42 pt bold)

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### ABSTRACT (30 - 34 pt bold)

This template is intended to help the authors of a poster in the placement of the different parts of it. The Organizing Committee of the Congress would be most grateful if this example is followed, if possible. Please use Arial font, size 26-30 pt all, along the manuscript, except for the title of the paper that must be Arial bold 42-pt and head sections that must be Arial 30-34 pt bold. The size of the poster is **900 mm width, 1350 mm length**, vertical format. Please use light background colour and black colour for the text (you can use colour to emphasize the text).

### INSTRUCTIONS TO PREPARE YOUR POSTER

**Important:** Send your poster via E-mail with an attached **high resolution PDF file** to [isra2007@us.es](mailto:isra2007@us.es) before July 30<sup>th</sup>, 2007 in order to be printed by the organizers.

#### Size:

- 900 mm width, 1350 mm length, vertical format.

#### Colours:

- Background: light colour.
- Text: black (use colour to emphasize text).

#### Layout:

- Title:
  - The same of the full-length paper
  - Font: size 42 pt, bold
- Authors:
  - The same of the full-length paper
  - Font: 30 pt, bold
- Reduced filiation (Institution, Country, E-mail):
  - The same of the full-length paper
  - Font: 24 pt, bold
- Head sections:
  - Font: size 30-34 pt, bold
- Normal text:
  - Font: size 26-30 pt, do not use bold type
- Figures and images:
  - It is possible to use colour (view figures).
  - Take care of the image resolution for a good appearance in the printed version of the poster.

The content of the poster will be structured in your good opinion.

You can reduce in the poster the bibliographical references which appear in the full-length paper (or even to suppress them). You can use the [ISRA2007 logo \(available on the web page\)](#).

### ADDITIONAL SUGGESTIONS

Because your audience will be standing at 1.5 m to 2 m from your poster, you must be sure that your text will be readable from such a distance. Your font style should be legible also. Avoid using italicized or fancy scripts. **Highlighting with colours** or **underlining** important information is acceptable, but make sure your font style is consistent over the entire poster. Avoid using all capital letters except in the title. The emphasis of capital letters helps titles stand out, but in general all caps take longer to read than mixed upper-and lower-case letters.

You can visit this link with useful advice to prepare your poster. <http://writing.colostate.edu/guides/speaking/poster/>

### CONCLUSIONS

Authors may use this template [1] to set up their posters to the poster session of the International Symposium on Room Acoustics, ISRA 2007 SEVILLA, Satellite Symposium of the 19<sup>th</sup> International Congress on Acoustics.

### ACKNOWLEDGEMENT

Thanks for your collaboration!

### REFERENCES

1. Organizing Committee of ISRA 2007 Sevilla, Template for the submission of the poster to ISRA 2007.

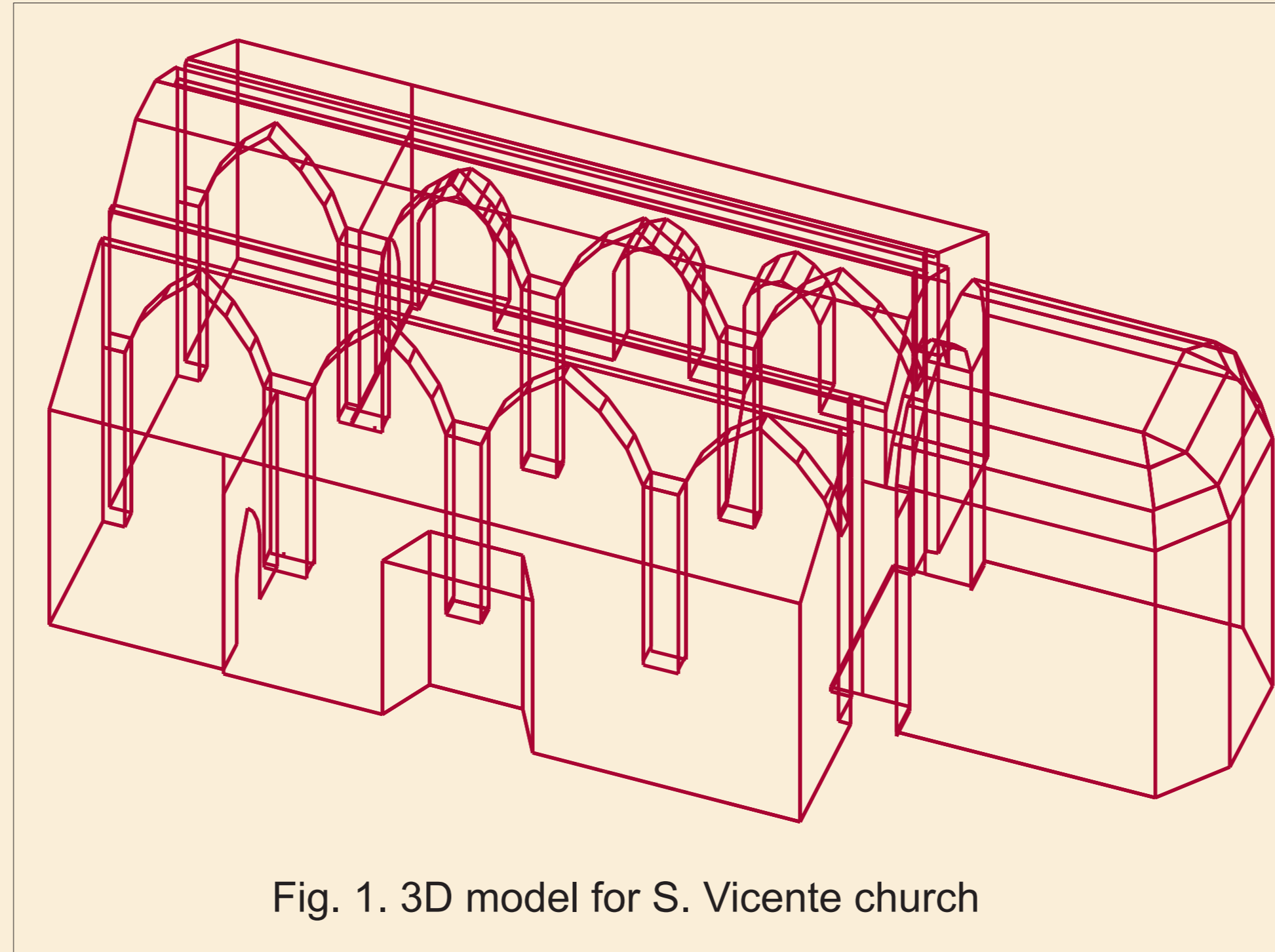


Fig. 1. 3D model for S. Vicente church

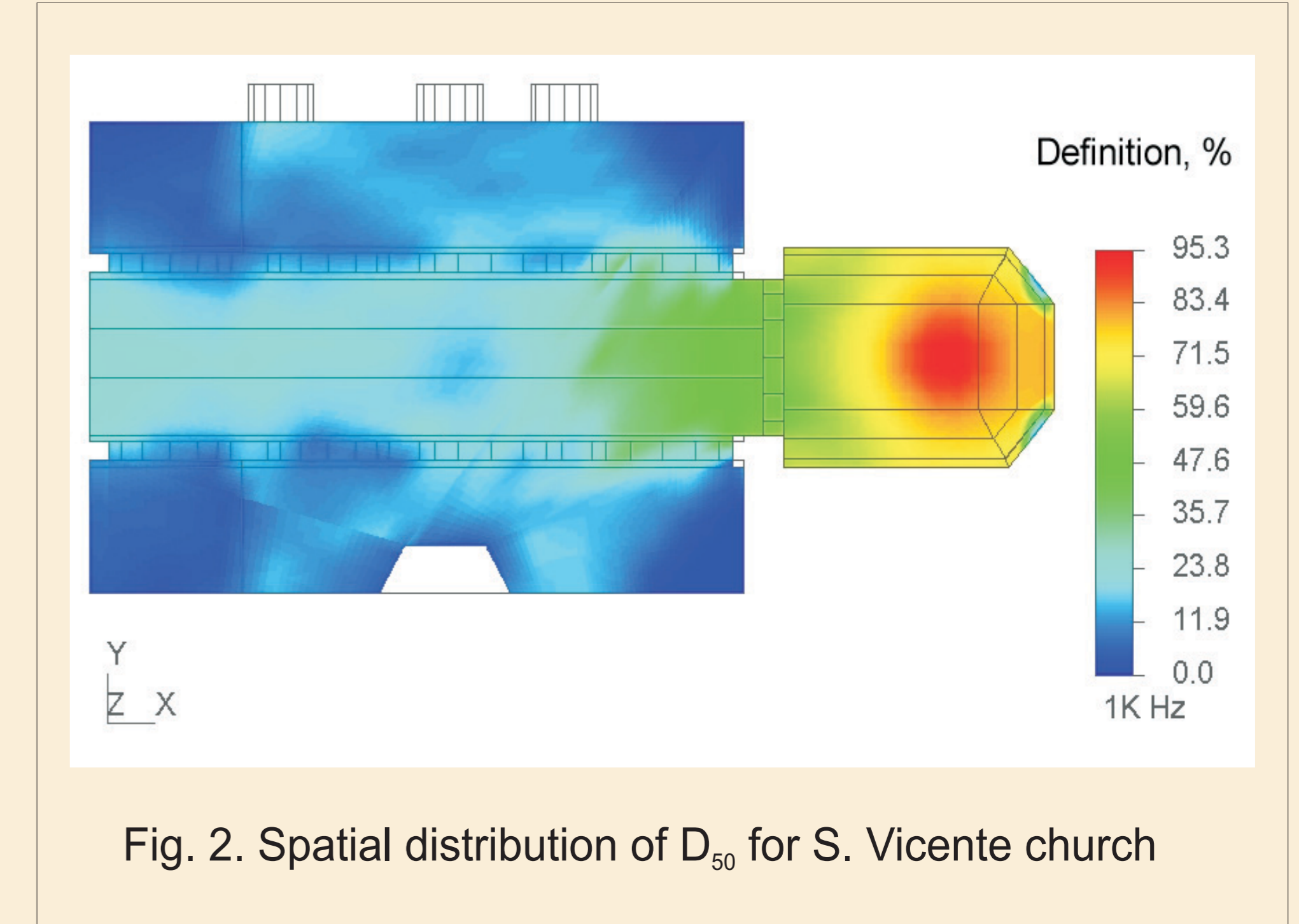


Fig. 2. Spatial distribution of  $D_{50}$  for S. Vicente church

### NEXT PARAGRAPHS ARE ONLY TO COMPLETE THE TEMPLATE

There are many examples in the western world of churches specifically converted for cultural purposes, to be used as theatres, conference halls, auditoria, etc.

However, many of these conversions fail in their function, mainly for acoustic reasons, and often to the great surprise of the architects in charge, who initially assumed that by rigorously recovering the original space, given that churches were traditionally regarded as a "place for music" and originally designed to proclaim the "word of God", acoustic conditions should be good.

The present team has often acted as acoustic advisers for church conversion projects, sometimes in close collaboration with the architects, while in other cases we have been called in only after discovery of the malfunction, the result of ignoring or underestimating the problem of acoustics in the original project.

In this study we have chosen three examples of such work and present the main measures proposed for acoustic correction, and the results achieved.

### INTRODUCTION

One of the most important policies in safeguarding artistic heritage in Europe in this century has been that of the conversion of churches, mainly for cultural purposes, into theatres, conference halls, concert halls, etc., generally requiring good internal acoustic conditions.

In previous studies we have evaluated the acoustic conditions of the different types of (western) churches, from early Christian to those built in the last century, and we have tried to address the specific acoustic problems involved in conversion, making methodological proposals for action and improvement in this area.

For the present study we have chosen three major church conversion projects, very different from each other but all in Andalusia, in which we have acted as acoustic advisers for the architects involved in the various projects.

Despite the fact that each of these studies is copious and examines the different variables to be considered in depth, here we are only concentrating on the two factors which in our view are worthy of special attention: reverberation time and speech intelligibility.

Reverberation time was measured using the integrated impulse method. The values represented in the graphics correspond to  $T_{20}$ .

For the intelligibility values we have used the RASTI index.

In the case of the correction proposals, computer models based on CAD programs have been devised, and the RAYNOISE program subsequently used for simulation.

### CHURCH OF THE "HOSPITAL DE LAS CINCO LLAGAS"

One of the major conversions recently carried out in Andalusia is that of the former Hospital de las Cinco Llagas in Seville, for use as the Andalusian Parliament building.

The structure is a magnificent example of Renaissance civic architecture, with eight patios around the church, now the parliamentary chamber. The floor plan of the church is that of a

Latin cross with small side-chapels. The roof consists of stone vaults resting on walls and pillars of the same material.

The approximate volume of the building is 12000 m<sup>3</sup>, with an average height of 20 m, and the audience area is 450 m<sup>2</sup>, to accommodate up to 300 people.

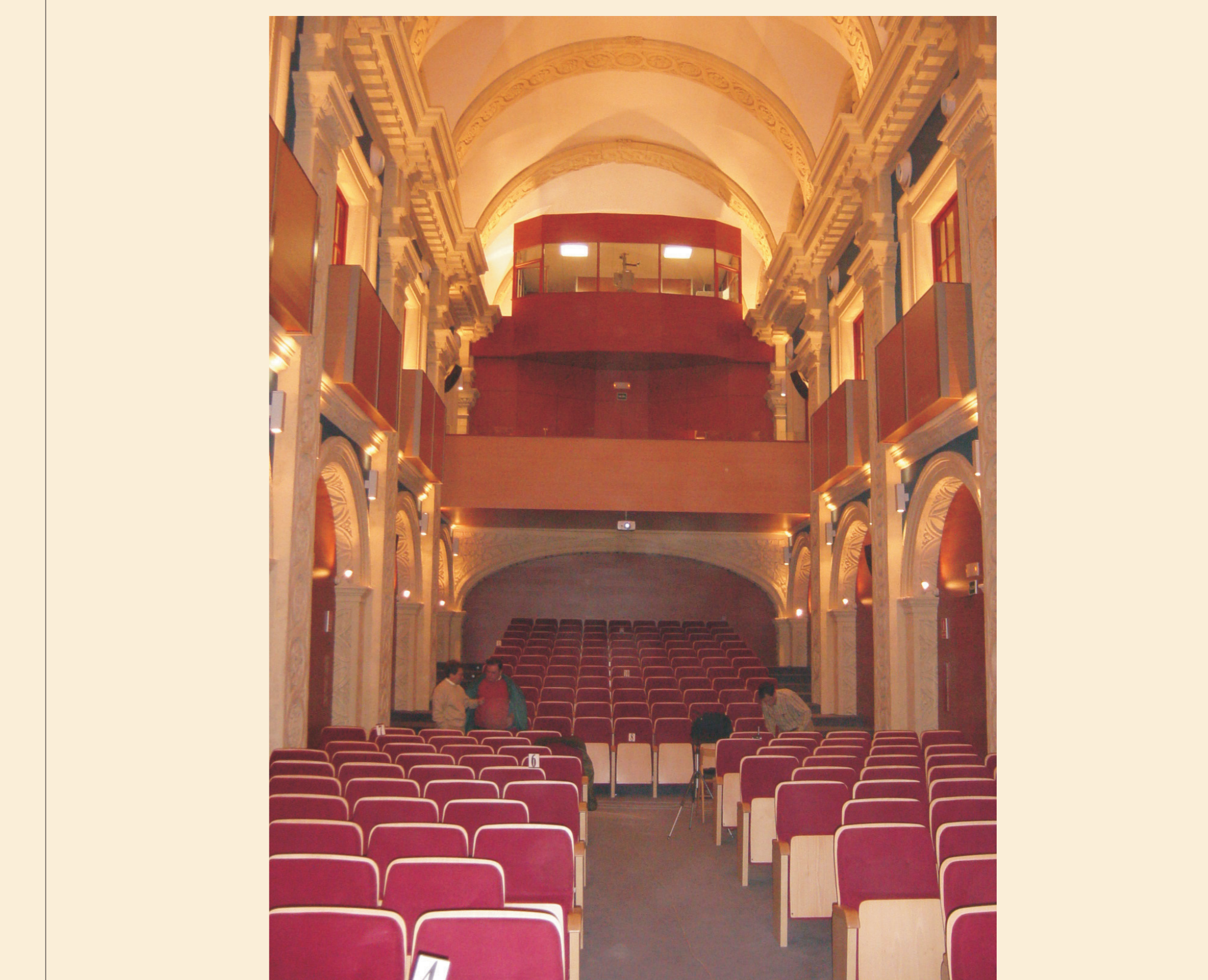


Fig. 3.- Inside views of two churches rehabilitated as multipurpose rooms.

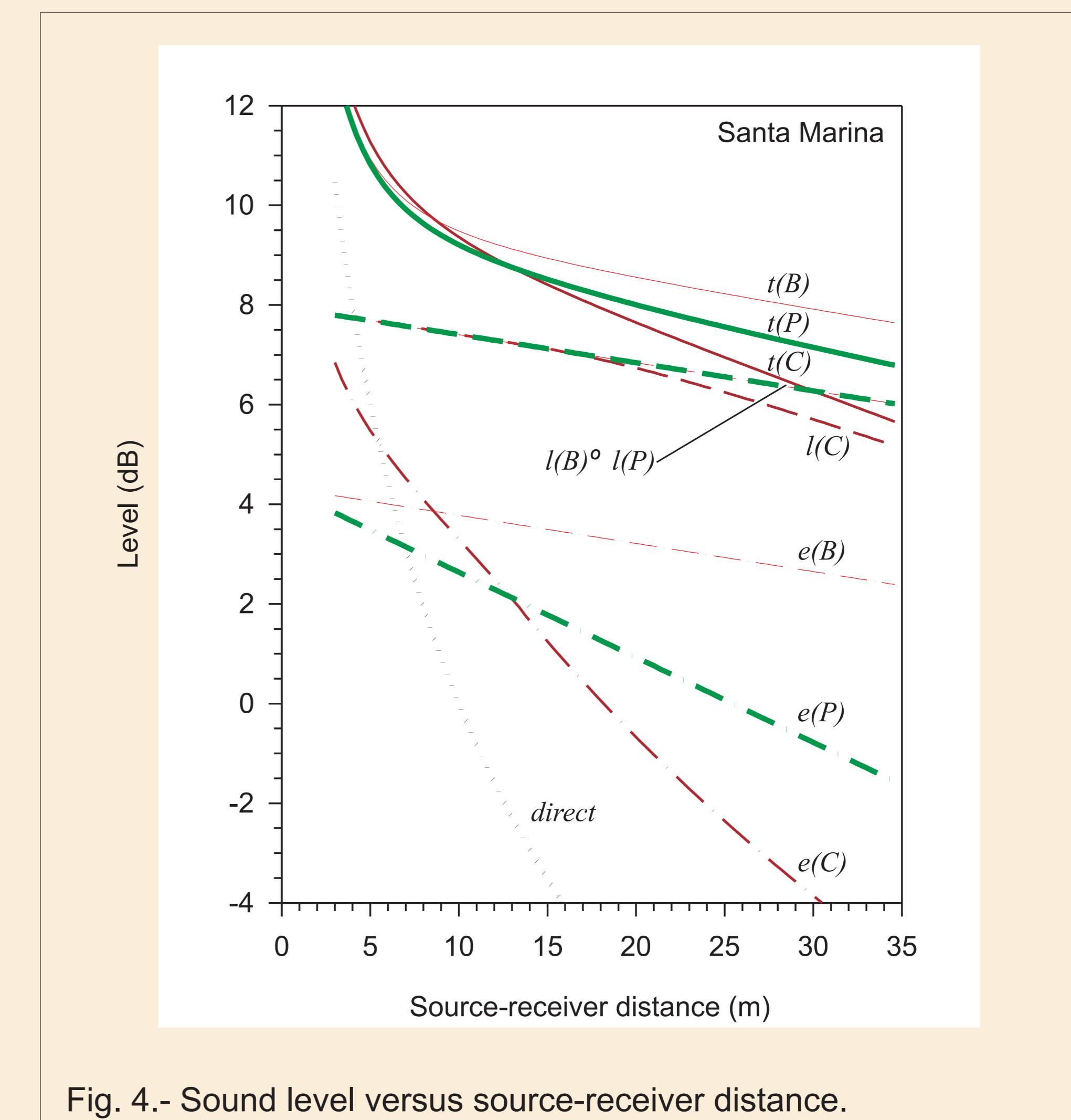


Fig. 4.- Sound level versus source-receiver distance.