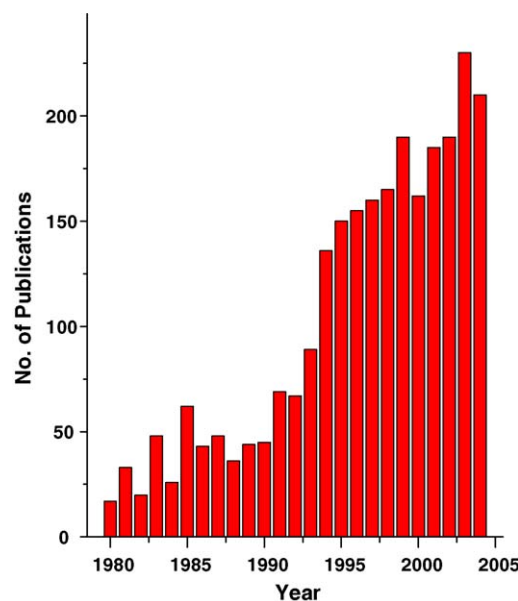


Editorial

The third International Conference on “Microwave Materials and their Applications-MMA2004” was held in Inuyama, Japan, from 25–28 October 2004. The first conference on MMA2000 was successfully held in Bled, Slovenia with 110 delegates and the second MMA2002 was also successfully held in York, UK with 130 delegates. This MMA2004 has attracted 160 delegates from 16 countries. The majority of the participants were from Japan, Korea, China and UK. During the three days conference, two plenary lectures, 15 invited talks, 53 oral and 81 poster papers were presented. We all participants made Professor Dr. Kikuo Wakino a honorable recognition of great contributions for the development of microwave materials. Young poster award was established and presented to five persons. An exhibition of companies and a factory visit were also arranged in the area of new technology for wireless communications in Japan.

Microwave materials designed for wireless communications have been a booming area of growth recently. The latest communication technologies including mobile multimedia systems, ultrahigh speed wireless local area network (LAN) and intelligent transport systems (ITS) require highly intelligent devices that enable communications effectively between people and machines. Leading materials for wireless communications, including dielectrics for resonators and tunable materials, piezoelectrics for SAW and BAW filters, photonic crystals adding new face fractal crystals, and futuristic metamaterials with artificial periodicity were presented in this conference.

Microwave dielectric ceramics are of considerable interest owing to their technologically important properties and the relatively less known science relating the crystal structures, chemistry and useful electrical properties. The key properties required for a dielectric resonator are high quality factor Q , high dielectric constant ϵ_r , and near zero temperature coefficient of resonant frequency τ_f . Optimal values satisfying these three properties simultaneously are difficult. The number of papers published on the science and technology of dielectric resonators considerably increased over the years as shown in the figure.



There are about 1500 low loss dielectric materials reported in the literature (see the website for a list of microwave dielectric materials with properties and references: <http://www.lsbu.ac.uk/dielectric-materials>). The purpose of the conference on MMA is to bring together large number of scientists, technologist and industrialist working in the area of microwave ceramics together and exchange knowledge and ideas for the benefit of the people world over. The MMA series of meetings were organized in response to the rapid growth in the science and technology of wireless communication and recognition of the need for dedicated conferences on Microwave Materials and their Applications.

The Conference was organized by domestic committee on “The MWs Dielectric Materials Circle of the Ceramic Society of Japan.” The conference chairs would like to acknowledge the work by Dr. K. Kakimoto and Dr. T. Shimada for scientific aspects, and Mr. Y. Kato and Miss Y. Sanma for secretarial assistance of this conference, respectively. The sponsorship from several organizations and industries was a great help for

the success of the conference. The MMA conference series operates in association with International Microwave Network (<http://www2.umist.ac.uk/material/research/microwave>).

The next MMA conference will be held at Oulu in Finland during June 2006.

Guest Editor

H. Ikawa*

Kanagawa Institute of Technology,

Department of Applied Chemistry,

1030 Shimo-ogino, Atsugi-shi 243 0292, Japan

Guest Editor

H. Ohsato

Nagoya Institute of Technology, Japan

Guest Editor

M.T. Sebastian

Regional Research Laboratory, India

*Corresponding author. Tel.: +81 46 291 3162;

fax: +81 46 242 8760.

E-mail address: ikawa@chem.kanagawa-it.ac.jp (H. Ikawa)

Available online 15 November 2005