

## NATO PROJECT

REPORT 19 NOVEMBER 2004, visit of Prf. M. ELAATMANI to Madrid

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## SCIENTIFIC REPORT

1.- In the Crystal Growth Laboratory of Madrid, Na modified KLN crystal with the following composition is starting to be grown as single crystal (ref. B-E. Jun et al JCG 270 (2004) 370-375)

i.-  $\text{Na}_2\text{O}:\text{K}_2\text{O}:\text{Li}_2\text{O}:\text{Nb}_2\text{O}_5$  (2:30:25:43) in the melt;  $\text{Na}_{0.23}\text{K}_{2.60}\text{Li}_{1.82}\text{Nb}_{5.35}\text{O}_{15.70}$  expected in the crystal. Na is used to avoid cracking at eutectic between KLN,  $\text{KNbO}_3$  and  $\text{Li}_3\text{NbO}_4$

Characterization will be done in Marrakech following that of papers recently published in the frame of the NATO project.

ii.- W doping will be done looking for the TTB structure

2.- A second work has been programmed: effect of heat treatment of ceramic sintered in Marrakech:

i./ samples will be prepared in Marrakech and sent to Madrid before middle January to start annealing experiments.

ii./ about ten samples with the same composition and dimensions are needed (diameter around 10-13 mm, and thickness 1-2 mm)

iii./ samples will be treated at different atmospheres and at least two temperatures (N, Nb, Li, Na, ...) which will be discussed

iv./ characterization will be simultaneously done in Madrid, Marrakech, Amiens,...

WITH these two works we planned to submit two papers (abstracts) to the IMF Conference to be held in Brazil next September 2005. At least one member from Madrid will participate. Deadline for abstract submissions is 16<sup>th</sup> February.

## VISITS

1.- Verónica could be in Marrakech for discussions of previous results next May/July 2005.

2.- Ernesto could either be in Marrakech for the National Meeting in South Morocco in September '05, or in Amiens.

## COMMENTS

In Madrid we are preparing the MEDITERRANEAN SCHOOL ON CRYSTAL GROWTH AND CHARACTERIZATION OF MATERIALS (title is not yet fixed) in 2006, where countries from Mediterranean area will be invited to participate.