

# EUROPEAN REPEAT STATION SURVEYS

An initiative to unify geomagnetic repeat station surveys of the European countries at comparable and high standards

In view of the results of the Niemegek repeat station workshop of February 20–21, 2003 we try to coordinate the effort of more homogeneous surveys in Europe, in particular having repeat station surveys within the same years in all participating countries.

## **Date of a first "European survey"**

In many of the countries a survey is already taking place this year or planned for 2004 or 2005, in several countries only parts of the network are measured per year. From the summary we derived at the meeting we see that in 10 countries (partly) surveys are planned for 2004. For 2005, 6 countries have planned (partly) surveys, while 4 of those already are among the 10 countries named first. 2004 therefore looks like a good year to start common European surveys, without much extra effort in several of the countries. A second argument to start in 2004 rather than 2005 is the expected lifetime of the current geomagnetic satellites, which might not be operating anymore in 2005. Comparisons of high-quality repeat station results with satellite results are desirable.

*We suggest to start common European surveys in 2004.*

## **Repeat interval**

Determination of secular variation is the main aim of repeat station surveys. Given the variability of secular variation, a time interval as short as possible is desirable.

*We suggest to have repeat station surveys in all participating countries every 2 years.*

If it is not possible to perform measurements at the complete network of a country within one year, it is desirable to perform a survey on a subset of evenly distributed stations in the years of the common surveys.

## **Further Information**

We have attached a summary of recommendations for new repeat station networks and to improve the standards of existing ones. For your information we also have attached again the list of planned surveys that were derived during the discussion and which was already distributed with the summary of the Niemegek meeting and an updated map with the current networks. In some cases this map shows dense networks, of which only a subset will be measured in one year, and in some cases planned stations, as a subset of older ones or completely new ones.

In particular if you want to measure only a subset of your stations in common survey it might be useful to contact the contact person of your neighbouring countries in order to avoid spatially unnecessary close stations or gaps along the borders. Sometimes a station with a variometer of one country may be closer than an observatory to a station of a

neighbouring country where no variometer is used. It might be worth thinking of doing the measurements at such stations at the same time and using the variometer for reduction.

***We encourage discussions about the planned European repeat station survey and any additional ideas of improving the quality.***

Please notify us of your intent to participate in the common surveys. We have to think about whether we should try to get additional funding from an EU project or similar. Any suitable ideas are appreciated.

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**Table of planned surveys as determined at the workshop in February:**  
(Please let us know if any of the information is incorrect)

<i>Country</i>	<i>Year of next survey planned</i>	<i>Number of stations</i>	<i>Remarks</i>
Belarus	?	11	
Bulgaria	?	15	Not yet sure
Croatia	2004	5–10	
Czech Republic	2003 + 2005	6–8	
Denmark	--	--	
Finland	2003, 2004, 2005	15?	2 – 3 Every year
France	2005	ca. 10	
Germany	2003/2004	ca. 22/23	Half the network every year
Hungary	2003	12	
Ireland	2005/2006	ca. 8/8	Half the network per year
Italy	2004/2005/2006	ca. 38/38/38	Dense network within 3 years
Latvia	?		
Lithuania	?	9	
Norway	2003,2004,2005	8	Every year
Poland	2003/2004	19	Half the network per year
Romania	2004	22	
Sweden	2003	10	
Slovakia	2003+2005	6	
Spain	2003/2004	ca. 20/20	Half the network per year
UK	2004 or 2005	51	Part of the network per year
Ukraine	2004	10	
Yugoslavia	2005	19	Not yet sure

### **Preliminary map of repeat station networks**

This map contains the information we had as of July 2003. In several cases only a subset of the stations given here will be part of common European surveys to be measured in the same year.

