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JOINT CIMO EXPERT TEAM ON  
SURFACE-BASED INSTRUMENT INTERCOMPARISONS  
AND CALIBRATION METHODS  
*First Session*

ITEM: 5.1

AND  
INTERNATIONAL ORGANIZING COMMITTEE (IOC) ON  
SURFACE-BASED INSTRUMENTS INTERCOMPARISONS  
*First Session*

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Trappes, France, 24-28 November 2003

**An invitation from the Slovak Hydrometeorological Institute (SHMI) to host  
the WMO Field Intercomparisons of Rainfall Intensity (RI) Gauges**

*(Submitted by Mr I. Zahumensky, SHMI)*

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### **Summary and purpose of document**

This document provides background of the SHMI invitation to host the Field Intercomparisons of Rainfall Intensity Gauges.

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### **Action proposed**

The meeting is invited to take into account information presented in this document when discussing a place for the Field Intercomparisons of Rainfall Intensity Gauges.

## An invitation from the Slovak Hydrometeorological Institute (SHMI) to host the WMO Field Intercomparisons of Rainfall Intensity (RI) Gauges

### 1. *Proposed place and background*

1.1 Slovak Hydrometeorological Institute (SHMI) built up three main testing sites. One of them is a testing polygon located at the professional meteorological station Jaslovské Bohunice, near Bratislava, suitable for field intercomparisons of precipitation gauges. The intercomparison measurements of recording precipitation gauges (two pit gauges and two elevated gauges at 1 m height, each of the weighing type and the conventional manual Hellmann gauge and finally the heated tipping-bucket gauge at the standard height of 1 m) have been carried out at the station from January 2001 up to present (see figures 1-3). The preliminary results of the intercomparisons were presented at TECO 2002, Bratislava (The Wind-induced Loss of Precipitation Measurement of Small Time Intervals as Recorded in the Field; Branislav Chvíla et al) and at 6<sup>th</sup> International Workshop on Precipitation in Urban Areas (Error sources of precipitation measurements using electronic weight systems, B. Sevrúk and B. Chvíla). Taking into account experiences received during the ongoing intercomparisons SHMI would like to offer the facility of the meteorological station J. Bohunice for WMO Intercomparisons of Rainfall Intensity Gauges.

1.2 The offer is open without any restriction of the date or duration of the intercomparisons.

### 2. *Basic Information on the proposed testing site Jaslovské Bohunice*

#### 2.1 *Location:*

Altitude: 176 m MSL

Latitude: 48°29' N

Longitude: 17°40' E

WMO Indicative: 11819

2.2 The following table presents meteorological conditions (Years 1961-1995):

<b>Month</b>	<b>Temperature [°C]</b>	<b>Relative humidity [%]</b>	<b>Sunshine duration [hour]</b>	<b>Cloud cover [%]</b>	<b>Wind speed [ms<sup>-1</sup>]</b>	<b>Precipitation amount [mm]</b>
<b>January</b>	-1.8	84	53.3	72	3.8	32
<b>February</b>	0.3	81	83.0	66	3.9	31
<b>March</b>	4.5	75	128.6	63	4.1	29
<b>April</b>	9.7	67	182.2	56	4.3	37
<b>May</b>	14.5	70	235.4	53	3.7	57
<b>June</b>	17.6	71	238.0	55	3.2	67
<b>July</b>	19.4	68	259.7	48	3.0	57
<b>August</b>	18.9	70	236.4	45	2.9	61
<b>September</b>	15.0	72	175.7	50	3.0	41
<b>October</b>	9.6	78	133.9	53	3.4	38
<b>November</b>	4.0	84	56.9	74	3.8	51
<b>December</b>	-0.2	86	45.8	75	3.7	45
<b>Year</b>	<b>9.3</b>	<b>76</b>	<b>1828.8</b>	<b>59</b>	<b>3.6</b>	<b>548</b>

2.3 The testing site is situated over an open plane with grass cover with fields surrounding the station. The station provides regular monitoring mainly for the synoptic, climatological and nuclear power-plant purposes. In addition to a standard classical type of instrumentation, the station is equipped with an Automatic Weather Station and an Automatic Tower Monitoring System on a 205 m meteorological mast. There is an observer in duty during daytime. Maintenance and calibration is done regularly by trained SHMI staff. Calibration laboratory, that is located at the Headquarters in Bratislava provides calibration of atmospheric pressure, temperature, humidity, and wind speed and received the certification ISO 17025.

### 3. *SHMI support towards the Intercomparison*

3.1 One trained staff, an observer, would be charged with tasks that will be needed to perform daily intercomparison of rainfall gauges, basic maintenance, if needed, and regular data collection. One university educated staff with experience in instrument comparison, a site manager, will be charged with the supervising of the work and data analysis according agreed procedures. SHMI will also provide free office space for participants and storage for the instruments.

3.2 A site manager will also supervise the installation of RI gauges, however the installation itself will have to be done or financed by a participating party or manufacturer including the cabling grid and central acquisition (data collecting) system. Extended maintenance and repair of RI gauges should be done by the participants or manufacturer with the assistance of a site manager.



Fig. 1, 2 Meteorological station Jaslovské Bohunice



Fig. 3 The tested rain gauges