WEAK EARTHQUAKE OF AUG. 10, 1987
CONNECTED WITH THE JÍLOVICE FAULT
(NORTHERN BOHEMIA)

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Summary: The paper describes the seismic activity of the Jilovice fault and the last earthquake of Aug. 10, 1987.

The catalogues [1, 2] give three larger earthquakes connected with the Jilovice fault, Fig 1, in the past, i.e. 6. 12. 1606, 29. 12. 1620, 10. 10. 1980. Their maximum intensity was 5° MSK-64.

According to our data the earthquakes occurred isolately, i.e. without foreshocks and aftershocks. On the basis of data in Table 1 for the time period 1900—1986, the intensity-frequency relationship \( \log N_c = (1.69 \pm 0.13) - (0.34 \pm 0.03) I_0 \), \( r_K = -1.00 \) for \( I_0 \geq 3 \) MSK-64 were calculated; \( N_c \) denotes the cumulative frequency of earthquakes, \( I_0 \) the epicentral intensity and \( r_K \) the sample correlation coefficient. The Benioff graph, Fig. 2, shows the distribution of shocks in time during the years 1900—1986. The time-space distribution of shocks is demonstrated in the graph in Fig. 3. To study this relation we roughly represented the fault as a line between points [50° 5° N, 15·5° E] and [49·95° N, 16·5° E]; the first point is near the town Nová Paka and the second near

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the town Vysoké Mýto (Fig. 1). The distance $D$ represents the distance between the epicentre and the first point near Nová Paka. Taking into account these facts we can see the NW-SE migration of shocks with a mean migration rate of 0.66 km per year.

Table 1.

<table>
<thead>
<tr>
<th>$I_0$</th>
<th>3.0</th>
<th>3.5</th>
<th>4.0</th>
<th>4.5</th>
<th>5.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>$N$</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

$N$ — number of earthquakes with epicentral intensity $I_0$ [°MSK-64].

Fig. 2. Benioff graph of the Jilovice fault region, 1900—1986. Energy $E$ [J], time $t$ [years], $I_0$ [°MSK-64] epicentral intensity.

Fig. 3. Space-time graph of the Jilovice fault activity, 1800—1986; distance $D$ [km] measured from point [50.5° N, 15.5° E], time $t$ [years]. The curve in the graph shows the time succession.