



Fig. 3. Vertical profiles of atmospheric mercury concentrations measured in two directions upwind and downwind from the electrolytic cell room.

Table 1. Day, time, measurement direction, speed and direction of wind and mercury flux in the atmosphere above the chlor-alkali complex of Rosignano Solvay (Italy). The horizontal directions A-C for the vertical scans are as shown in Fig. 2

Day	Time	Measurement direction	Wind speed ( $\text{m s}^{-1}$ )	Wind direction	Mercury flux ( $\text{g h}^{-1}$ )
19 Sept. 1990	6.43 p.m.	A	2.5	220°	34
20 Sept. 1990	11.34 p.m.	B	2.5	220°	40
21 Sept. 1990	12.24 a.m.	B	7.5	220°	57
21 Sept. 1990	12.54 a.m.	B	9.0	220°	55
21 Sept. 1990	01.36 a.m.	A	9.0	220°	65
21 Sept. 1990	02.09 a.m.	B	9.0	220°	64
21 Sept. 1990	12.29 p.m.	A	9.0	220°	42
21 Sept. 1990	01.13 p.m.	A	8.0	220°	42
21 Sept. 1990	01.26 p.m.	C	9.0	220°	3
21 Sept. 1990	05.06 p.m.	A	6.0	240°	31
21 Sept. 1990	06.24 p.m.	A	6.0	230°	31
21 Sept. 1990	06.37 p.m.	C	6.0	250°	2

chlor-alkali plant. The only datum ( $30 \text{ g h}^{-1}$ ) available in the literature was reported by Edner *et al.* (1989), and it was determined at a Swedish chlor-alkali plant during an evaluation of the lidar system's capability for atmospheric mercury mapping.

The low flux values ( $3$  and  $2 \text{ g h}^{-1}$ ) observed on 21 September 1990 at 1.26 p.m. and 6.37 p.m. upwind from the main cell house refer to a smaller source inside the chlor-alkali plant.

Using the collected data and assuming they reflect