

# Preliminary results of current measurements in the inlets of the Venice Lagoon

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Organization of the experimental work,  
measurements at sea, data analysis, and  
preparation of materials for the  
seminar have been carried out by:

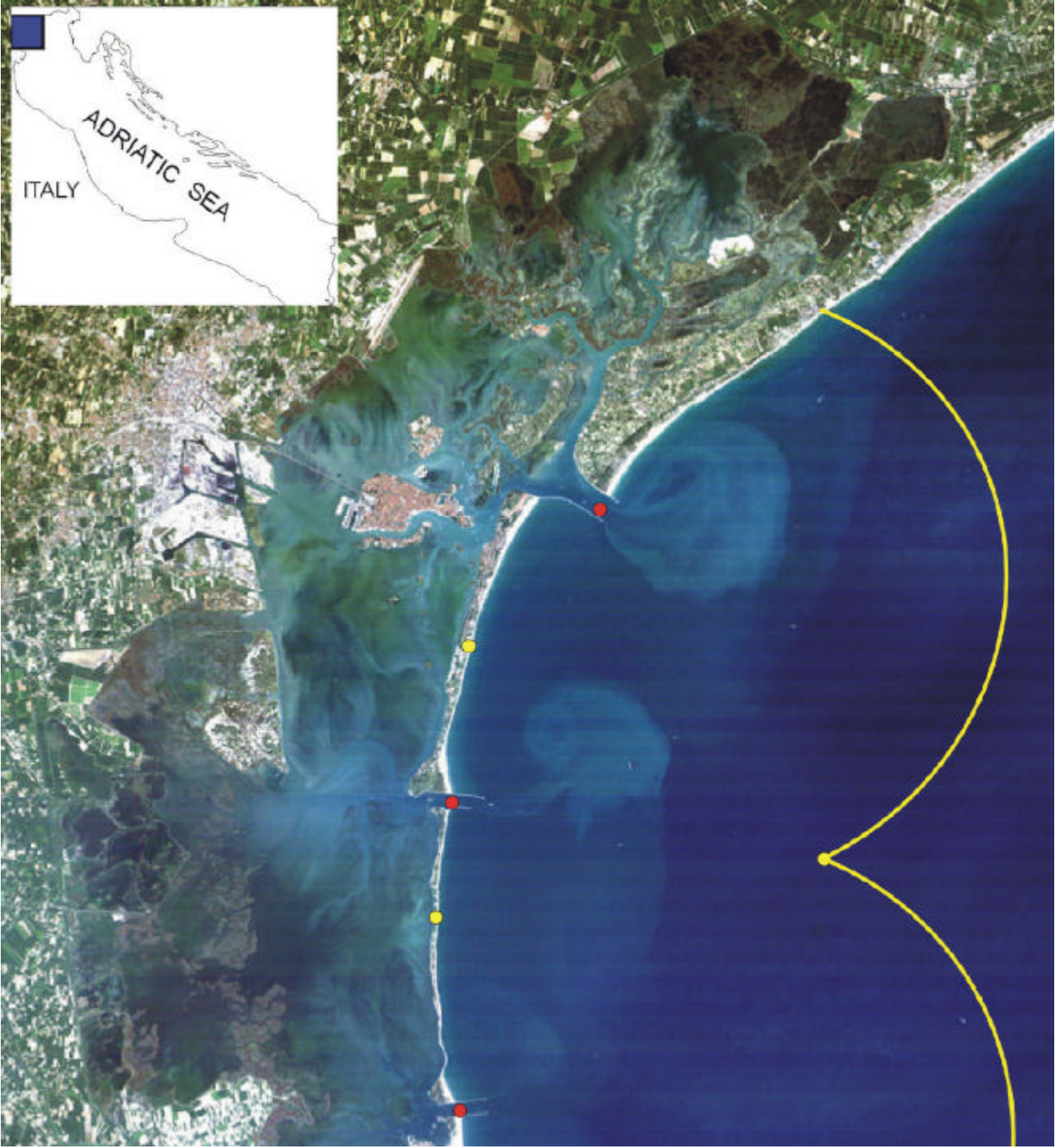
- Franco Arena
- Isaac Mancero
- Giorgio Gelsi
- Giancarlo Arcari
- Andrea Mazzoldi
- Luciano Perini
- Corrado Fragiaco
- Davide Deponte
- Nevio Medeot

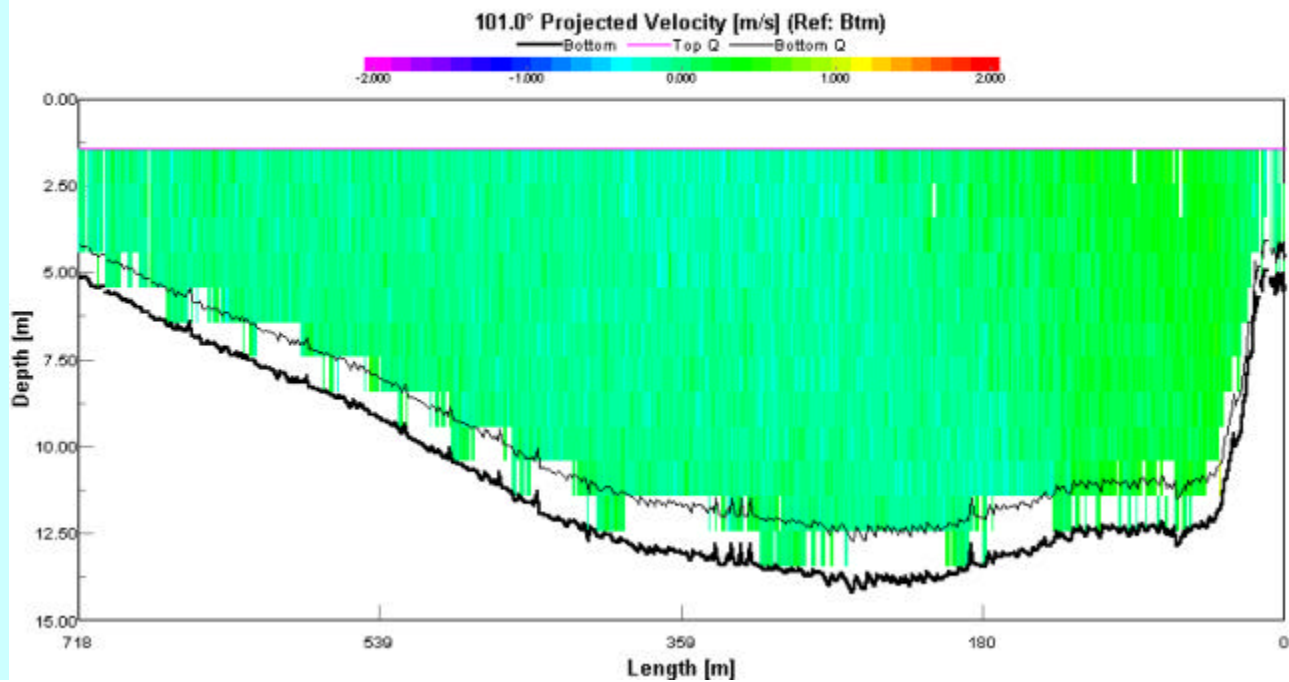
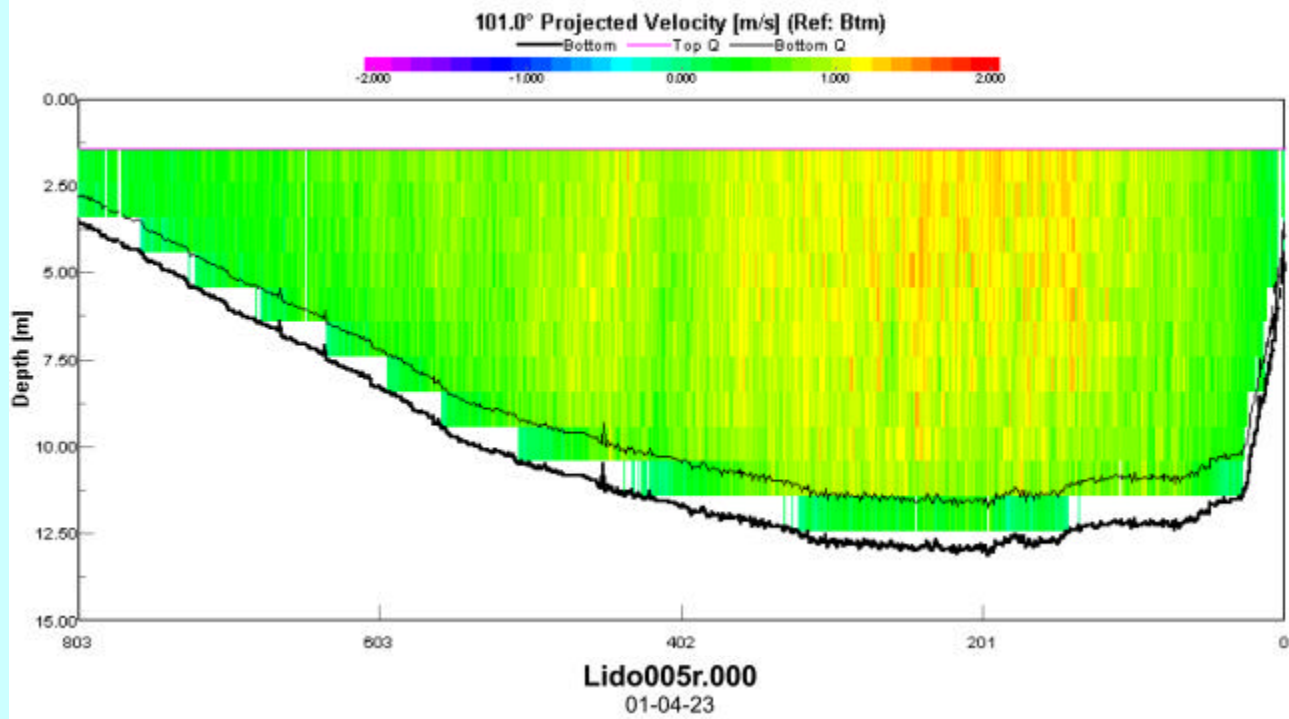
CORILA

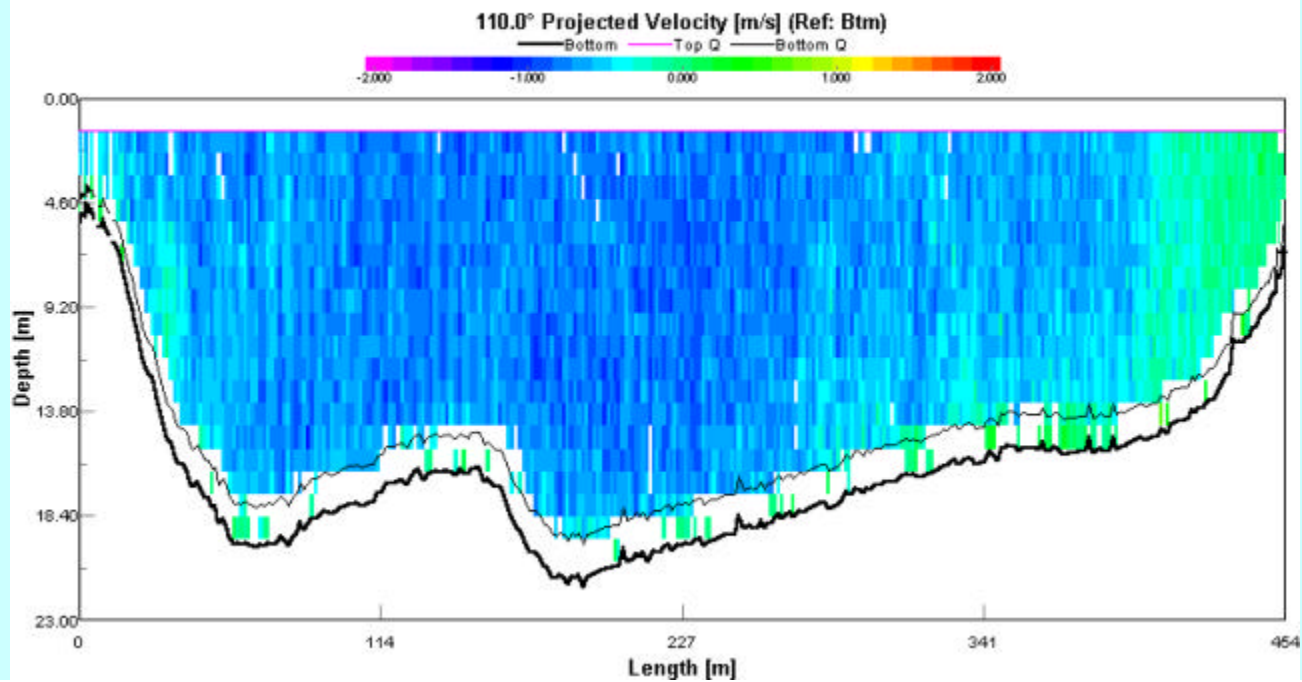
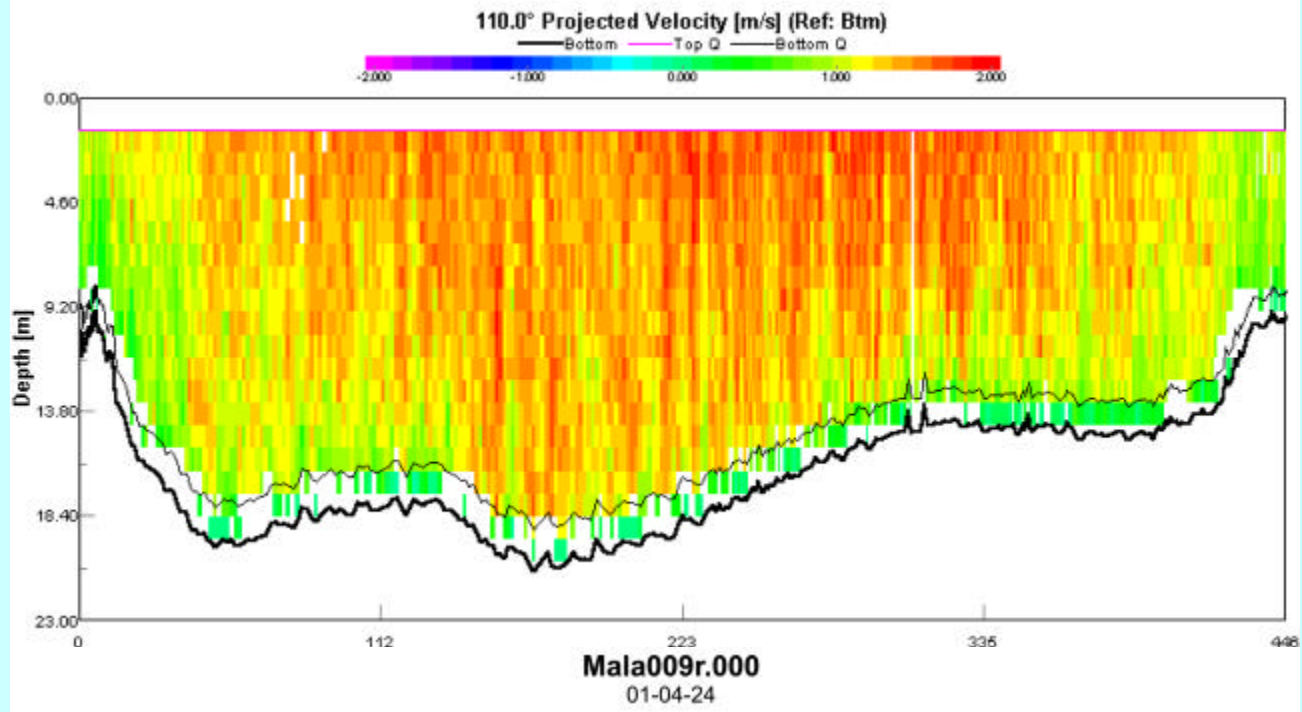
Prima Riunione Annuale

Venezia

5 aprile 2002

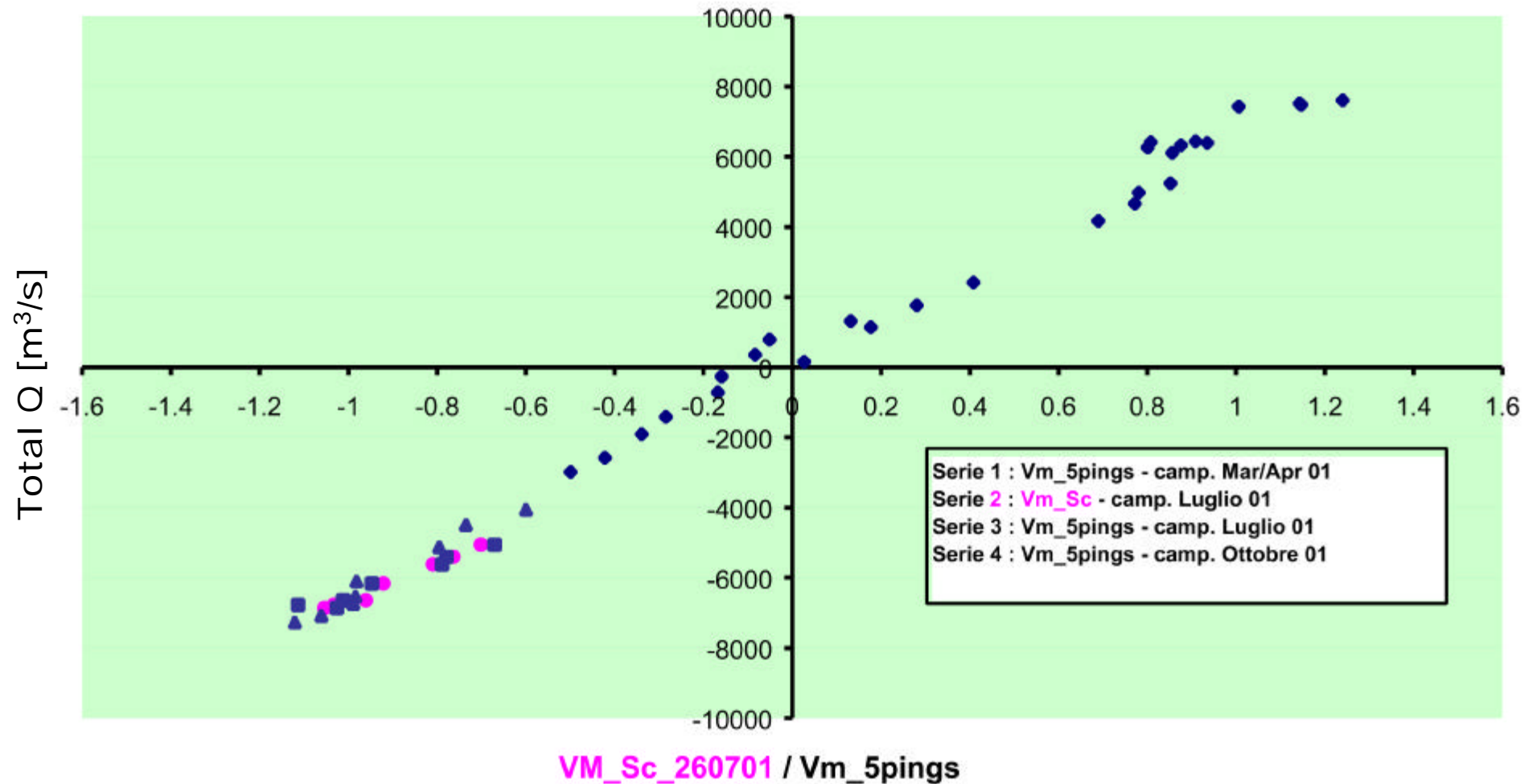






# LIDO B

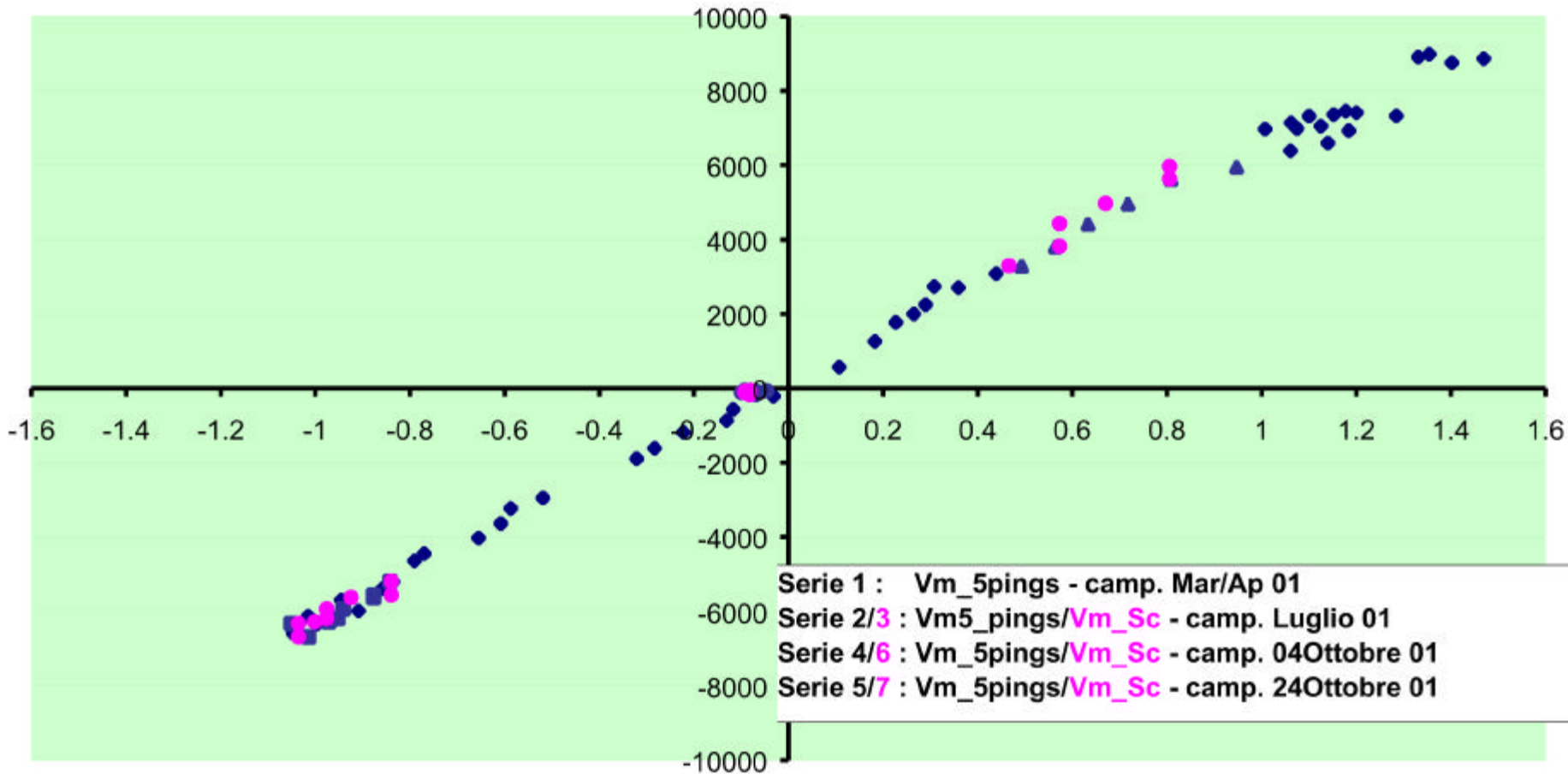
◆ Serie1    ● Serie2    ■ Serie3    ▲ Serie4



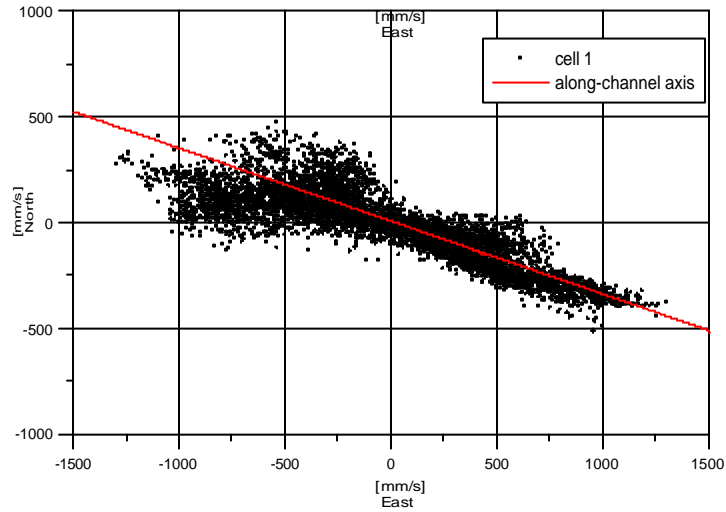
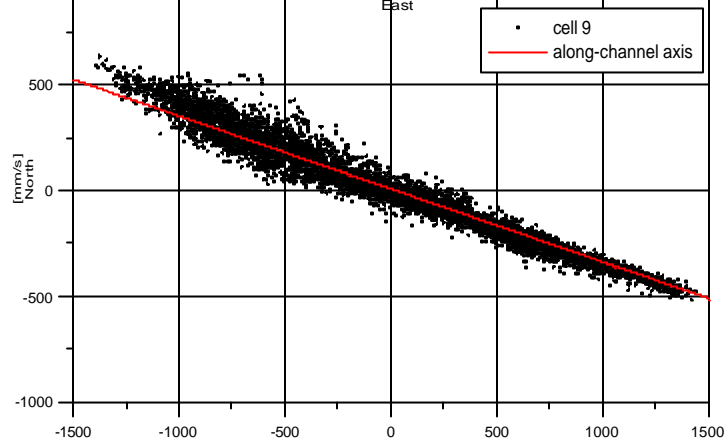
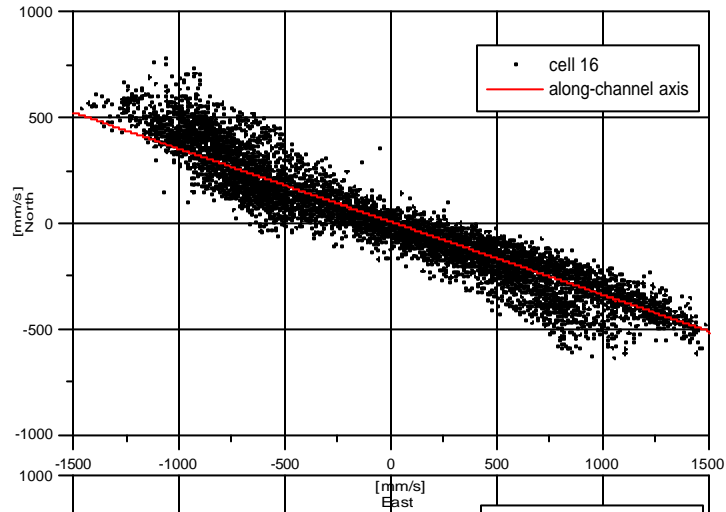
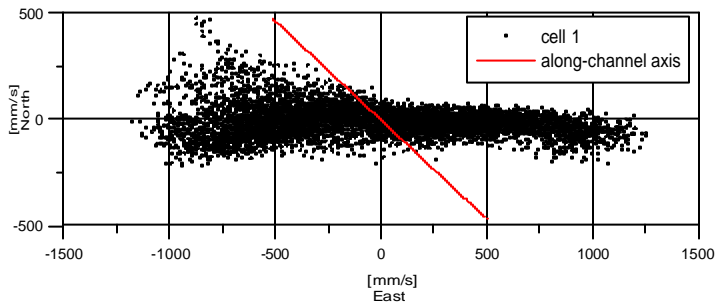
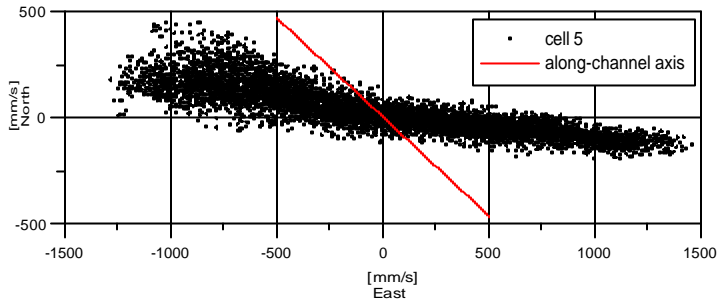
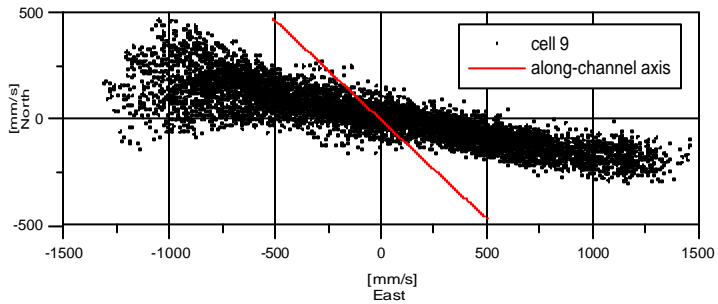
# MALAMOCCO C

● Serie1   ■ Serie2   ● Serie3   ▲ Serie4   ● Serie5   ● Serie6   ● Serie7

Total Q [m<sup>3</sup>/s]



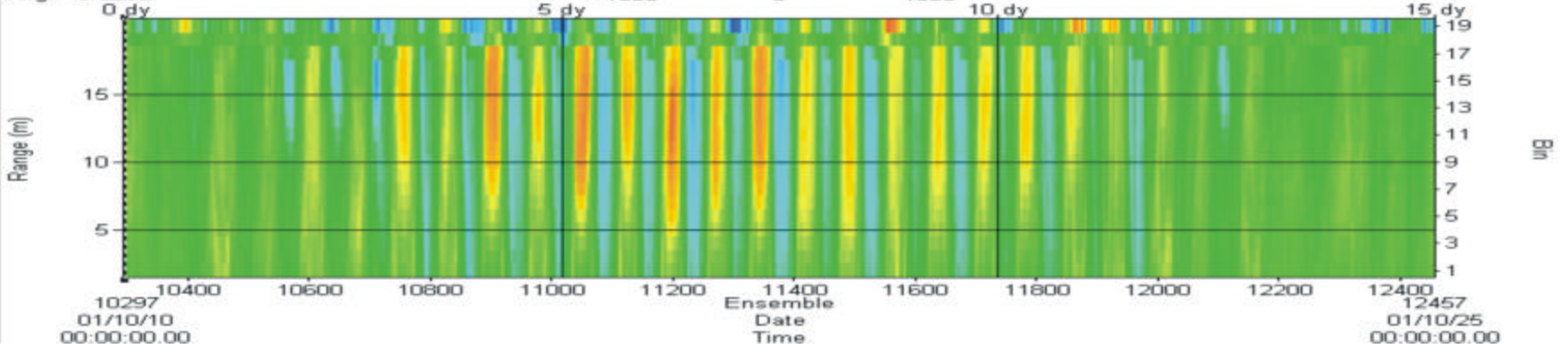
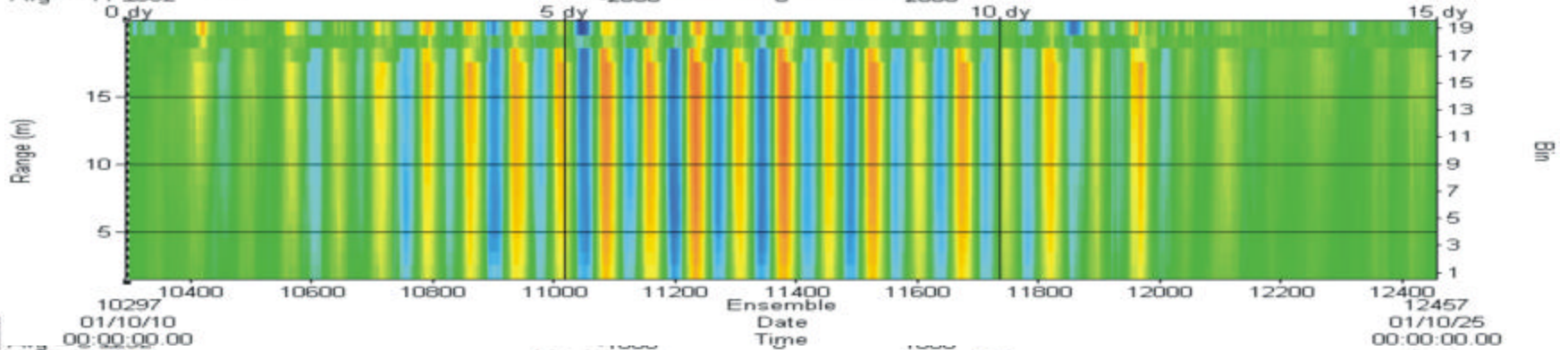
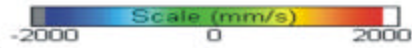
VM\_Sc / Vm\_5pings



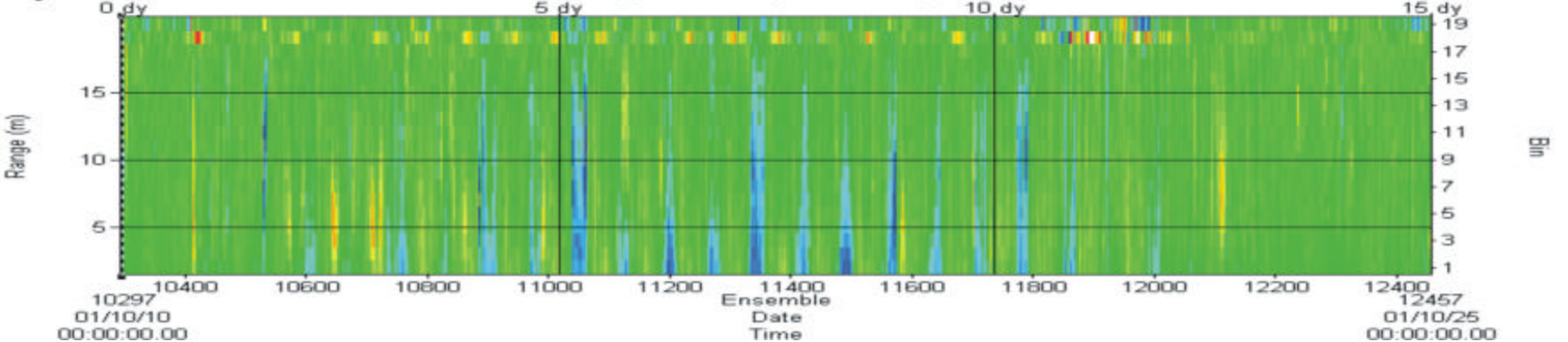
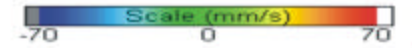
# Malamocco East

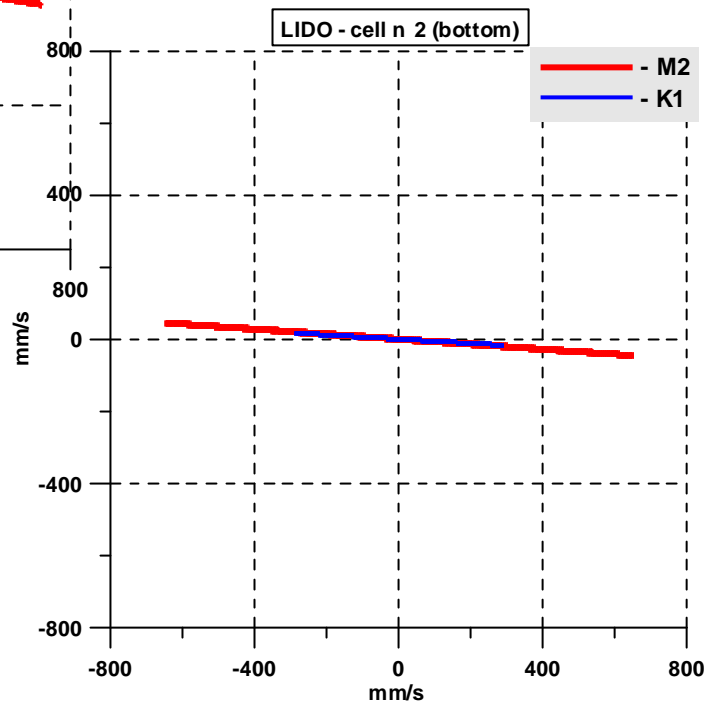
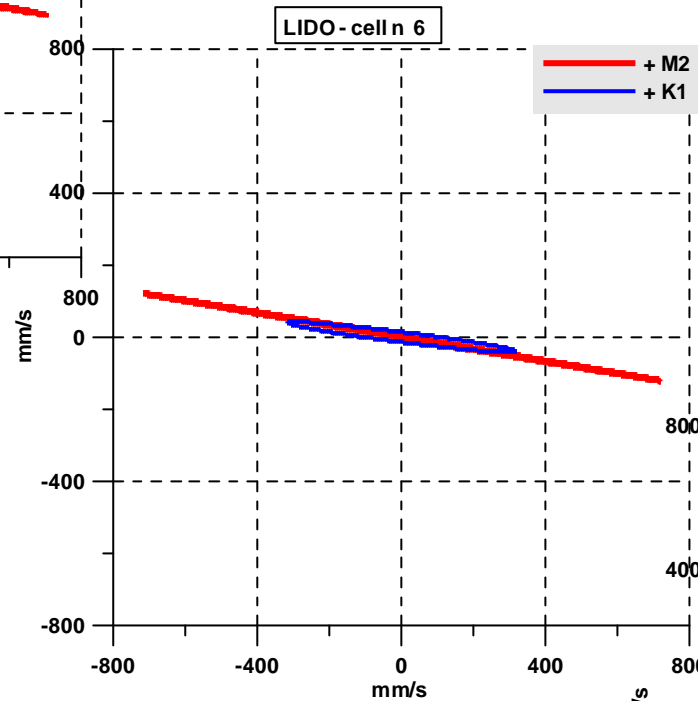
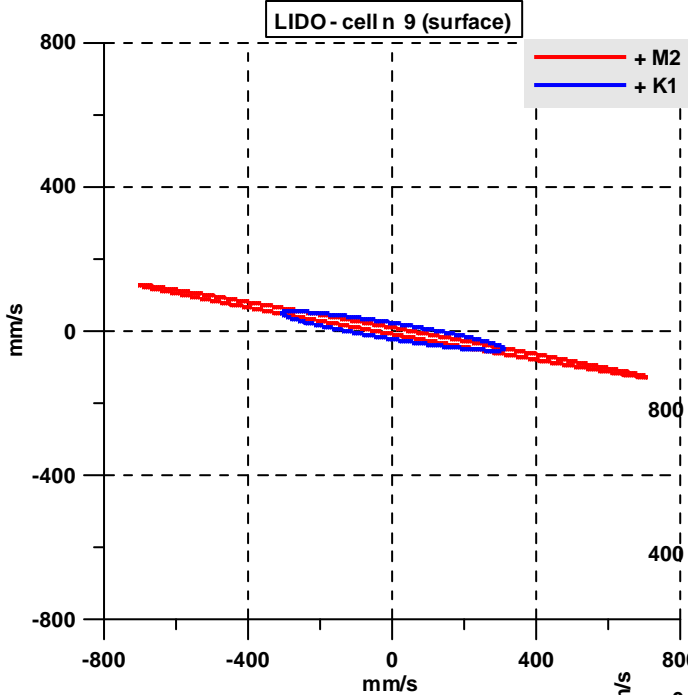


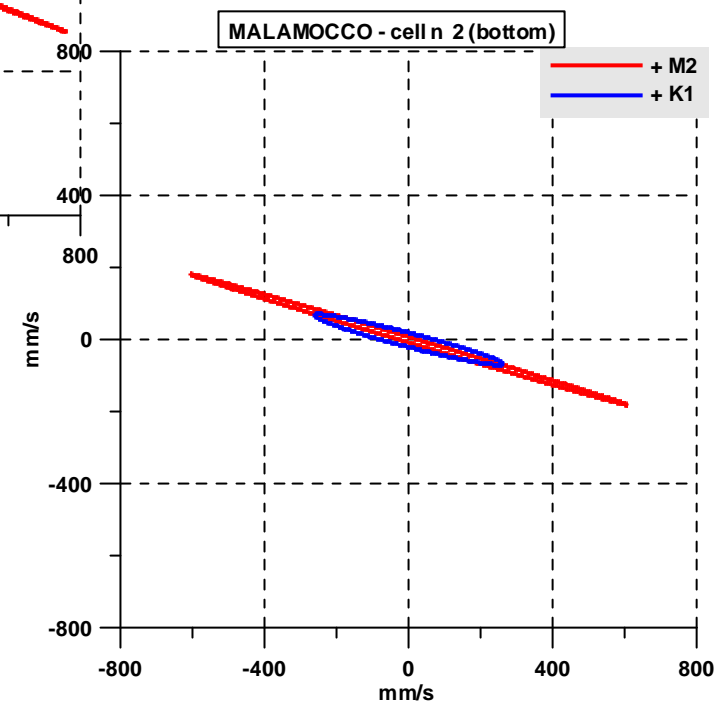
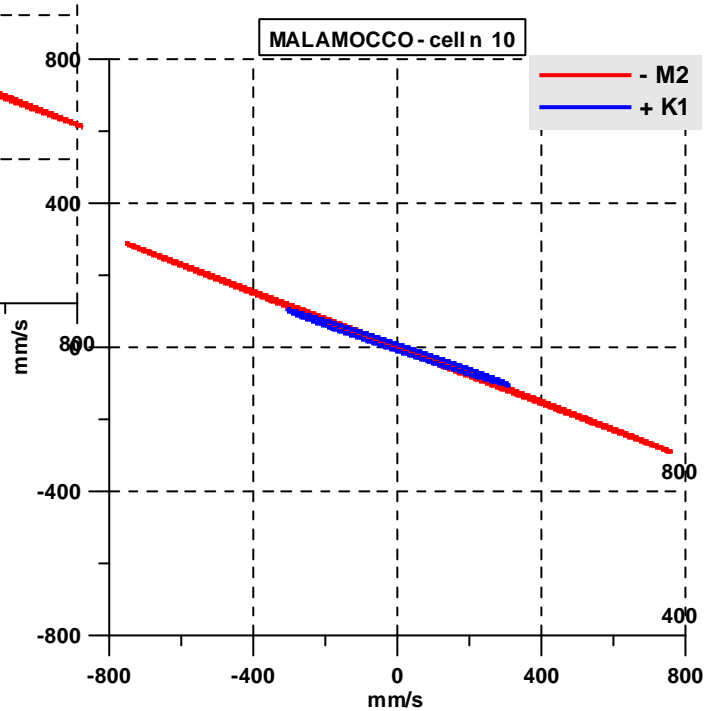
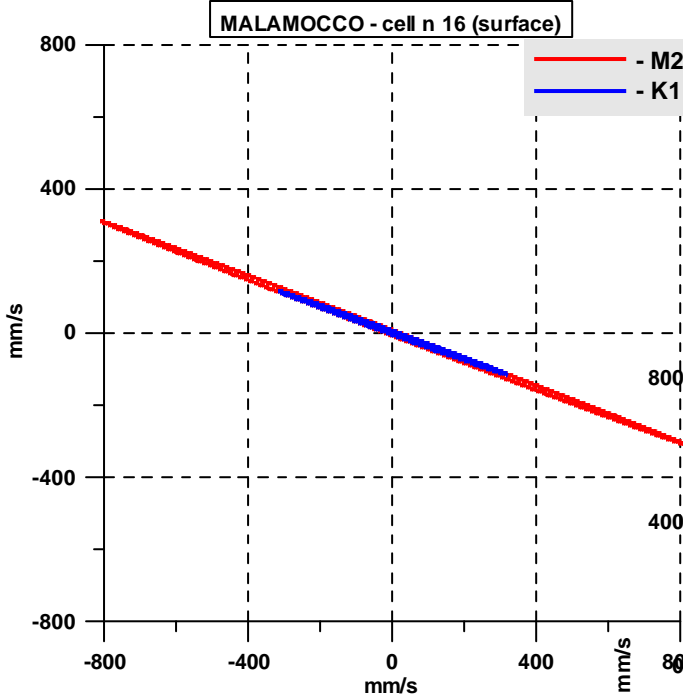
VELOCITY EAST (u)  
Avg =  $-11 \pm 662$



VELOCITY UP (w)  
Avg =  $-3 \pm 13$







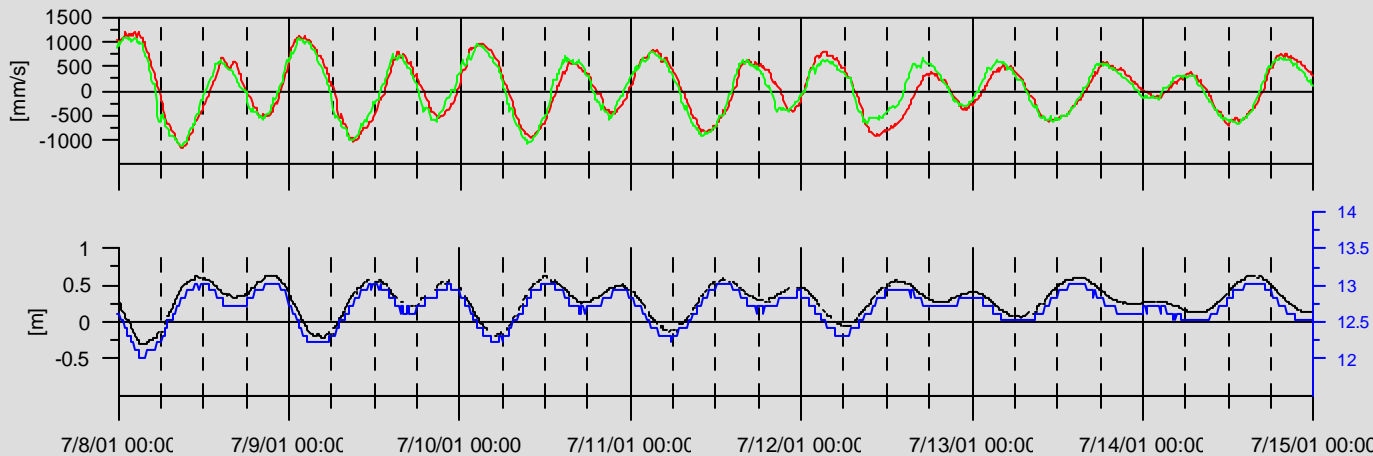
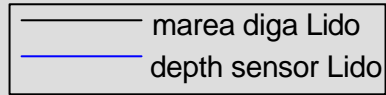
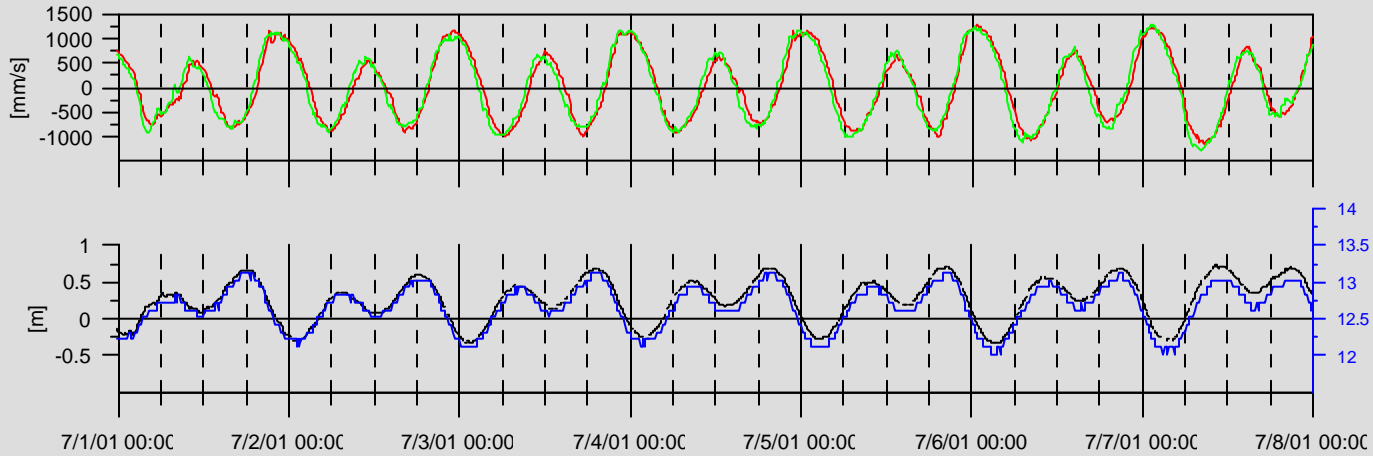
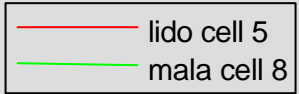
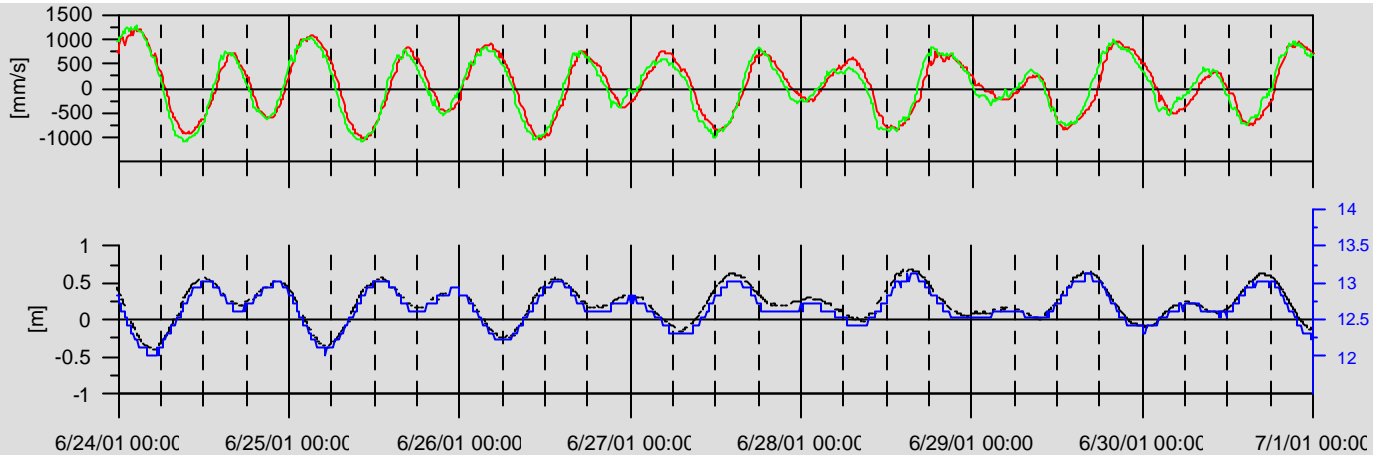


Table 1. Ellipse parameters from the harmonic analysis of current data (at six meters from the bottom) in two inlets of the Lagoon of Venice. The letter "M" indicates the magnitude of the major axis, while "m" indicates the minor one, "inc" is the orientation of the major axis, "ph" indicates phase with respect to the inflowing current component. The letter "e" before each variable name refers to the error.

Site	const	period (h)	M (mm/s)	eM (mm/s)	m (mm/s)	em (mm/s)	inc (°)	einc (°)	ph (°)	eph (°)
Lido	K1	23.93	312	32	-7	8	-5	1	0	5
	M2	12.42	707	36	0	13	-8	1	-141	2
Malamocco	K1	23.93	295	23	-19	16	-15	3	-8	5
	M2	12.42	702	25	-5	16	-18	1	-155	2

Table 2. Amplitude ("amp") and phase ("ph") from the harmonic analysis of sea surface elevations (SSE) at the two inlets of the Lagoon of Venice. The letter "e" before each variable name refers to the error.

Site	const	amp (m)	eamp (m)	ph (°)	eph (°)
Lido	K1	0.189	0.022	62	7
	M2	0.249	0.009	263	2
Malamocco	K1	0.189	0.021	62	6
	M2	0.248	0.008	262	2

Table 3. Phase differences (“phd”) between Malamocco and Lido, for SSE and currents. The letter “e” before each variable name refers to the error. Negative sign means that Malamocco leads Lido.

	constituent	phd (°)	ephd (°)	phd (hh:mm)
<b>Current</b>	<b>K1</b>	-8	7	-00:32
	<b>M2</b>	-14	3	-00:29
<b>SSE</b>	<b>K1</b>	0	9	00:00
	<b>M2</b>	-1	3	-00:02

Table 4. Phase differences (“phd”) between the SSE and inflowing current at two locations. The letter “e” before each variable name refers to the error. Positive sign means that inflow leads SSE.

Site	constituent	phd (°)	ephd (°)	phd (hh:mm)
<b>Lido</b>	<b>K1</b>	62	9	04:06
	<b>M2</b>	44	3	01:30
<b>Malamocco</b>	<b>K1</b>	70	8	04:42
	<b>M2</b>	57	3	02:00

# Lido - Malamocco

