

ISR RUNNING-INRun 74 - 18 June 1971Ring 1 - 22 GeV/c - 20 bunchesQ shifts produced on the injection orbit by a stack

Q_H and Q_V were measured on the injection orbit ($\langle \Delta r \rangle = -37$ mm) using injection errors to produce enough coherent oscillation. When injecting a new pulse the same results were found to better than $\Delta Q = 0.001$ when the previous pulse which circulated on the injection orbit was eliminated by automatic dumping or by the injection kick. This latter procedure was used for stacks Nos. 1 and 2. For stack No. 3 we simply left the Q meter to measure continuously at injection during the stacking process (the measurement being triggered before acceleration).

Results are contained in the attached table. Measurable effects have been found only for stack No. 3. It would be interesting to continue this experiment with a stack close to injection.

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Stack No.	Conditions	Intensity A	top mm	bottom mm	Q's before stacking	Q's with the stack	Q's after dumping	Q shifts
1	FS15 large inj.errors	4	+34	+ 6	$Q_H = 8.589 \pm 0.000$ (5 measurements)	$Q_H = 8.589 \pm 0.000$	-----	$\Delta Q_H = 0.000$
					Q_V not measured because of instabilities at injection			
2	FS15 $+\Delta Q_V = -0.01$ $+\Delta Q_V = 0.5$	4	+34	+15	$Q_H = 8.590 \begin{smallmatrix} +0.001 \\ -0.000 \end{smallmatrix}$ (3 measurements)	$Q_H = 8.590 \begin{smallmatrix} +0.001 \\ -0.000 \end{smallmatrix}$ (3 measurements)	$Q_H = 8.591 \pm 0.000$ (3 measurements)	$\Delta Q_H = 0.000$
					$Q_V = 8.530 \begin{smallmatrix} +0.001 \\ -0.000 \end{smallmatrix}$ (3 measurements)	$Q_V = 8.530 \pm 0.000$ (3 measurements)	$Q_V = 8.530 \pm 0.000$ (3 measurements)	$\Delta Q_V = 0.000$
3	FS15	3.5	+26		$Q_H = 8.590 \pm 0.000$ (3 measurements)	$Q_H = 8.591 \begin{smallmatrix} +0.001 \\ -0.000 \end{smallmatrix}$ (3 measurements)	-----	$\Delta Q_H = 0.001$
					$Q_V = 8.550 \begin{smallmatrix} +0.001 \\ -0.000 \end{smallmatrix}$ (3 measurements)	$Q_V = 8.553 \pm 0.000$ (3 measurements)	-----	$\Delta Q_V = 0.002$