# Summary of RUN Period 28

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**Days allocated:** 51
**Days with beam:** 35
**People on shift:** $\approx 50$

## Data overview

- **8307 tapes in total**
- **6373 with new trigger T507110026:**
  **$\geq$ 1 kaon, two clusters in PC0, $\geq$ 2 primary tracks**
- **218 T1 tapes for minimum bias physics**

## Beam statistics $\Longrightarrow$ see figures

| | |
|---|---|
| Spills: | $\approx 590$ |
| Average beam rate: | 750 kHz |
| $\Sigma\, \overline{p}$ | $\approx 1.6 \cdot 10^{12}$ |
| used $\overline{p}$ | 50% |

## Detector and trigger performance $\Longrightarrow$ see figures

| | |
|---|---|
| $\pi^+\pi^-$ candidates | $70 \cdot 10^6$ |
| $\pi^o\pi^o$ candidates | $7 \cdot 10^6$ |
| tapes/shift | 73 |
| best days | 104 (old trigger) |
| | 75 (new trigger) |
| maximum | 124 (old trigger) |

## Improvements $\Longrightarrow$ see figures

- less deadtime
- more good events
- expected: less normalisation problems

## Problems in P28

- **sabotage, 10 days no beam**
  **7 days compensation in P29**
- **PS problems, 2 days no beam** 5% loss
- **EDF power cut and afterwards**
  **LEAR RF+Extraction problems**
  **4 days no beam** 10% loss
- **PC0 gas connection**
- **PC0 low voltage**
- **monitoring of CAEN crates**
- **Dark currents in DC5 and DC6**

## Work during shutdown

- DC5 and DC6: new gas mixture ?
- PC0 gas tubes
- Connect PC0 low voltage to Slow Control
- Investigations how to solve the CAEN problem

**Prepare for the end of P29 a test with additional material in the detector**

# Conclusion and Outlook

- LEAR performance improved with new feedback system
- stable detector and trigger performance
- good data taking efficiency
- 2.5 times more good events/time
- expect $\approx$ 10 000 tapes in P29