

LASER INTERFEROMETER GRAVITATIONAL WAVE OBSERVATORY  
- LIGO -  
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| <b>Document Type</b>           | <b>LIGO-T030256-00-Z</b> | 2003/11/01 |
| <b>S3 Playground Selection</b> |                          |            |
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## Abstract

This note describes the playground selection criteria and final selections for the S3 run. The principle S3 playground data consists of a set of 600s samples of data chosen every 6370s throughout the course of the S3 run.

\$Id: T030256.tex,v 1.1 2003/11/02 04:00:53 lsf Exp \$

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## 1 Introduction

Cuts and thresholds for LIGO data analysis need to be evaluated on a set of data representative of that analyzed. The data set used for choosing these cuts is referred to as the *Playground* data.

The LIGO detectors are still in a state of rapid evolution; so, data from previous runs is not useful for the detailed choices that need to be made for the analysis of data from a particular run. Complicating matters further, LIGO detector data quality varies significantly over and between lock segments. This memo describes the procedure and final choices for the selection of Playground data for the S3 run, which attempts to meet the goal of providing a representative sample of data for the S3 data analyses approved at the beginning of the S3 run.

The S3 Playground data, and this document, follow almost entirely from the S2 Playground definition as described in LIGO Technical Note T030020.

## 2 Playground Data

The S3 Playground data is a set of disjoint segments of 600 contiguous seconds of data from each of H1, H2 and L1. Each segment begins at an integer multiple of 6370 seconds counted from GPS time 729273613 seconds (the start of the S2 run). More formally, playground data is the set  $\mathcal{T}$

$$\mathcal{T} := \{[t_n, t_n + 600) : t_n = 729273613 + 6370n, n \in \mathbb{Z}\}. \quad (1)$$

Data selected by this criteria are, by definition, representative of the entire run. Should an analysis group desire to work with only the triple time, the triple time included in this subset will be representative of the whole triple time, etc. The choice of parameters  $M$  and  $N$  are discussed in LIGO Technical Note T030020, §3. With these choices

- Playground constitutes 9.42% of the total run;
- The maximum length of an analysis data segment is 5770s;
- A sample begins in each solar hour twice every three days.