Galaxy completeness in two massive fiber allocation setups

February 10, 2013

1 Introduction

2 Fibers and Galaxies

2.1 Fibers

The fibers are placed in an hexagonal tile following a pattern where the inter-fiber distance, the pitch P, is the same for all fibers. The pattern is shown in Figure 1.

Each fiber tile is completely described by the patrol radius r_{p} and the exclusion radius r_{e}.

We try to different setups the

- Despec. Patrol radius $r_{\mathrm{p}} = P$. Exclusion radius $r_{\mathrm{e}} = 1/10 \times P$
- BB. Patrol radius $r_{\mathrm{p}} = P/\sqrt{3}$. Exclusion radius $r_{\mathrm{e}} = 0.15 \times P$

2.2 Galaxies

We use two kinds of galaxy distributions: poissonian and clustered.

... The clustered galaxy distribution (Steph).

3 Allocation Algorithms

We use two allocation algorithms

3.1 Simulated Annealing

...Simulated Annealing (SA)

3.2 Local Galaxy Density

...Local Galaxy Density (LGD)

Fiber Setup	Galaxy Distribution	Allocation Algorithm	% Total Completeness	% ELG Completeness	% LRG Completeness
DESpec	Poisson	SA		-	-
BB	Poisson	SA		-	-
DESpec	Mock	SA			
BB	Mock	SA			
DESpec	Poisson	LGD	94	-	-
BB	Poisson	LGD	88	-	-
DESpec	Mock	LGD	90	94	86
BB	Mock	LGD			

4 Results

The following table summarizes our results