

Galaxy completeness in two massive fiber allocation setups

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1 Introduction

2 Fibers and Galaxies

2.1 Fibers

The fibers are placed in an hexagonal tile following a pattern where the interfiber 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 $r_p = P$. Exclusion radius $r_e = 1/10 \times P$
- BB. Patrol radius $r_p = P/\sqrt{3}$. Exclusion radius $r_e = 0.15 \times P$

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

3.2 Local Galaxy Density

4 Results

The following table summarizes our results

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