Figure 1: *Lost Astronaut Prior Distribution* The crash site $\mathbf{x}(t)$ is defined by a random time t, chosen uniformly in $[0, T]$. This induces prior marginal probabilities on the latitude and longitude of the crash site. The limiting distribution for as $T \to \infty$ is shown at right, while the limiting distribution on longitude is uniform.

1 Information-Driven Exploration
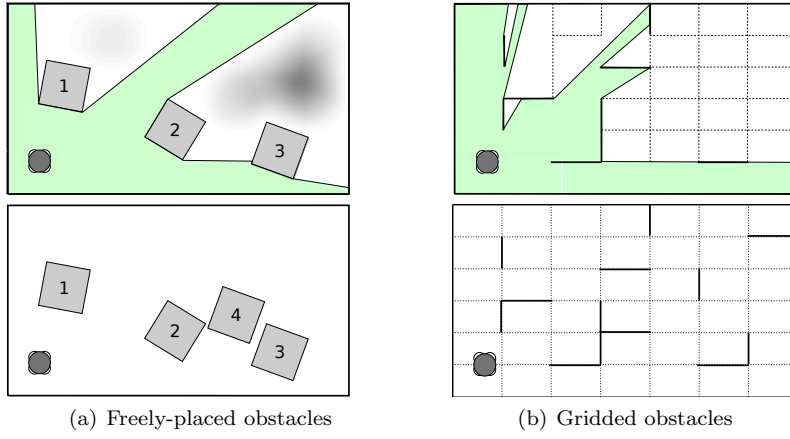
(a) Freely-placed obstacles

(b) Gridded obstacles

Figure 2: *Exploring a Random Room* In the first case, the explorer knows that there are four identical boxes scattered within a room of known dimensions, three of which he can see. The placement of boxes is constrained by the fact that unseen boxes can not coincide with seen boxes, and that unseen boxes to not lie in the visible region.