Highlights

1. This paper proposes a sampling point planning method for complex surfaces based on feature points under area division.
2. According to the curvature characteristics, the complex surface is divided into several sharply-edged and flat areas.
3. Searching method of the feature points, i.e. surface extreme points and curvature extreme points, are given in detail.
4. The uniform distribution method is used for the flat areas, and the curvature adaptive planning method considering feature points is adopted for the sharply-edged areas.
5. The proposed method fully considers the curvature characteristics of different areas of the complex surface and improves both the measuring accuracy and efficiency.