

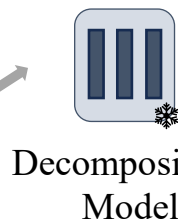
## Sparse Supervision Generation

Single Image

Generation Model



Sparse MV Color Images for Stage 2



Decomposition Model

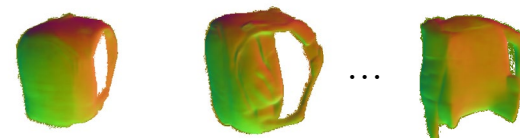


Mono Normal Model



Albedo

Intrinsic Decomposition Guidance for Stage 1



Normal

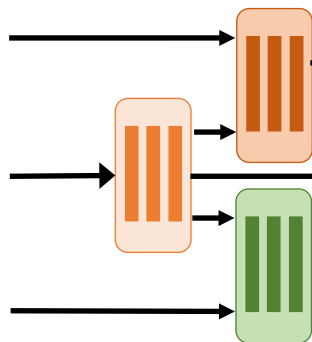
Transient-Mono Prior Guidance for Stage 1

## Stage 1: Geometry Reconstruction

Per-frame Normal Encoding

Position

View Direction

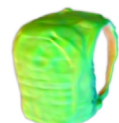


Transient Density

Density

Color

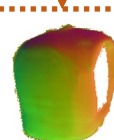
Volume Rendering



Mesh



Albedo



View Augmentation Fusion

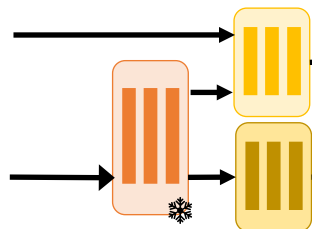


Dense Random Views

## Stage 2: Texture Reconstruction

Per-frame Color Encoding

Position



Transient Color

Color



Texture

Pixel Loss

Semantic Loss