

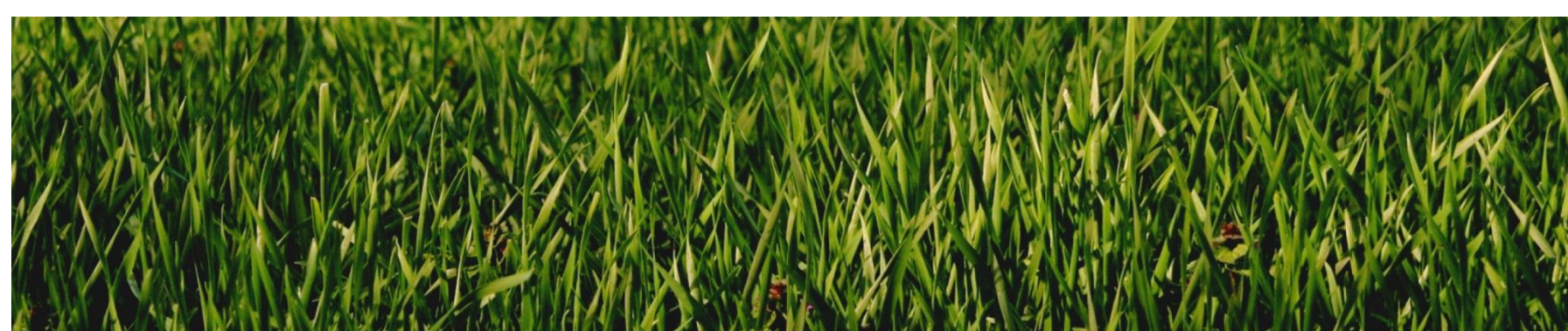
*Keywords : Procedural modeling, procedural texturing and interactive edition*

### Improving realism of objects with “fuzzy” details

#### Stochastic 3D details

Many repetitive elements over a surface with small differences

- Grass blades
- Foliage
- Fur

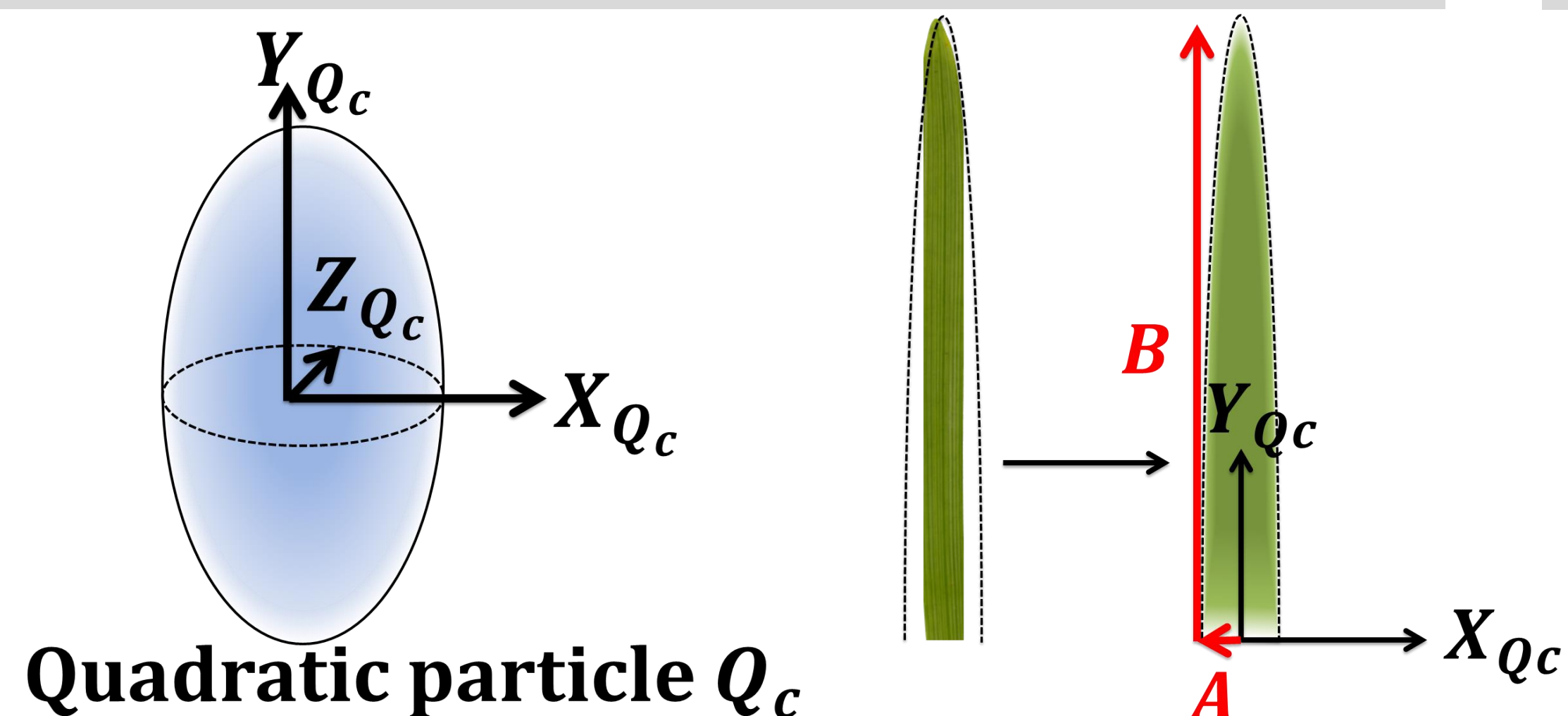


Usually precomputed or manually authored data :

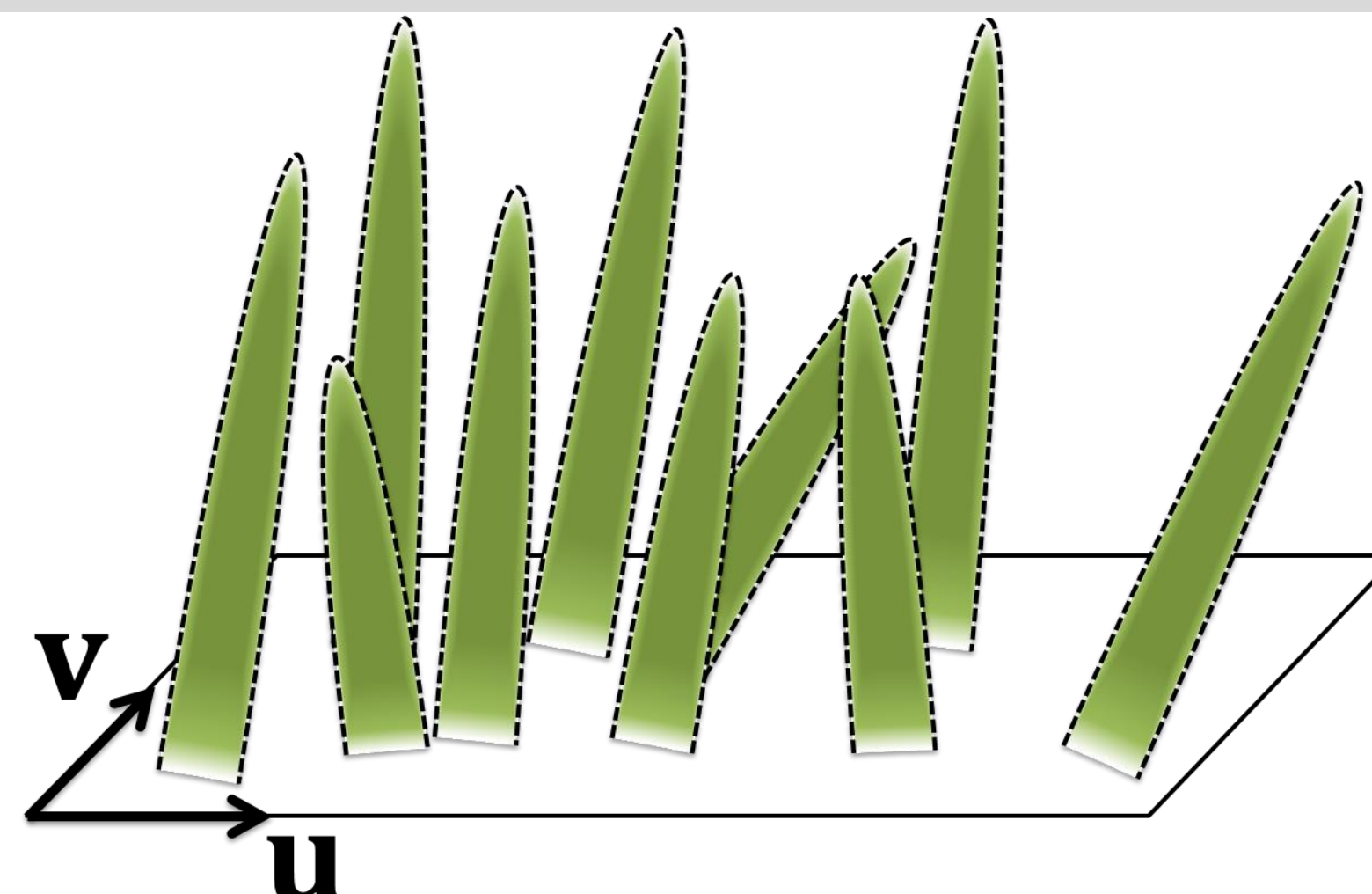
- **Long authoring time**
- **Geometric complexity**
- **Large memory cost**

### Introducing a new way to create stochastic 3D procedural pattern

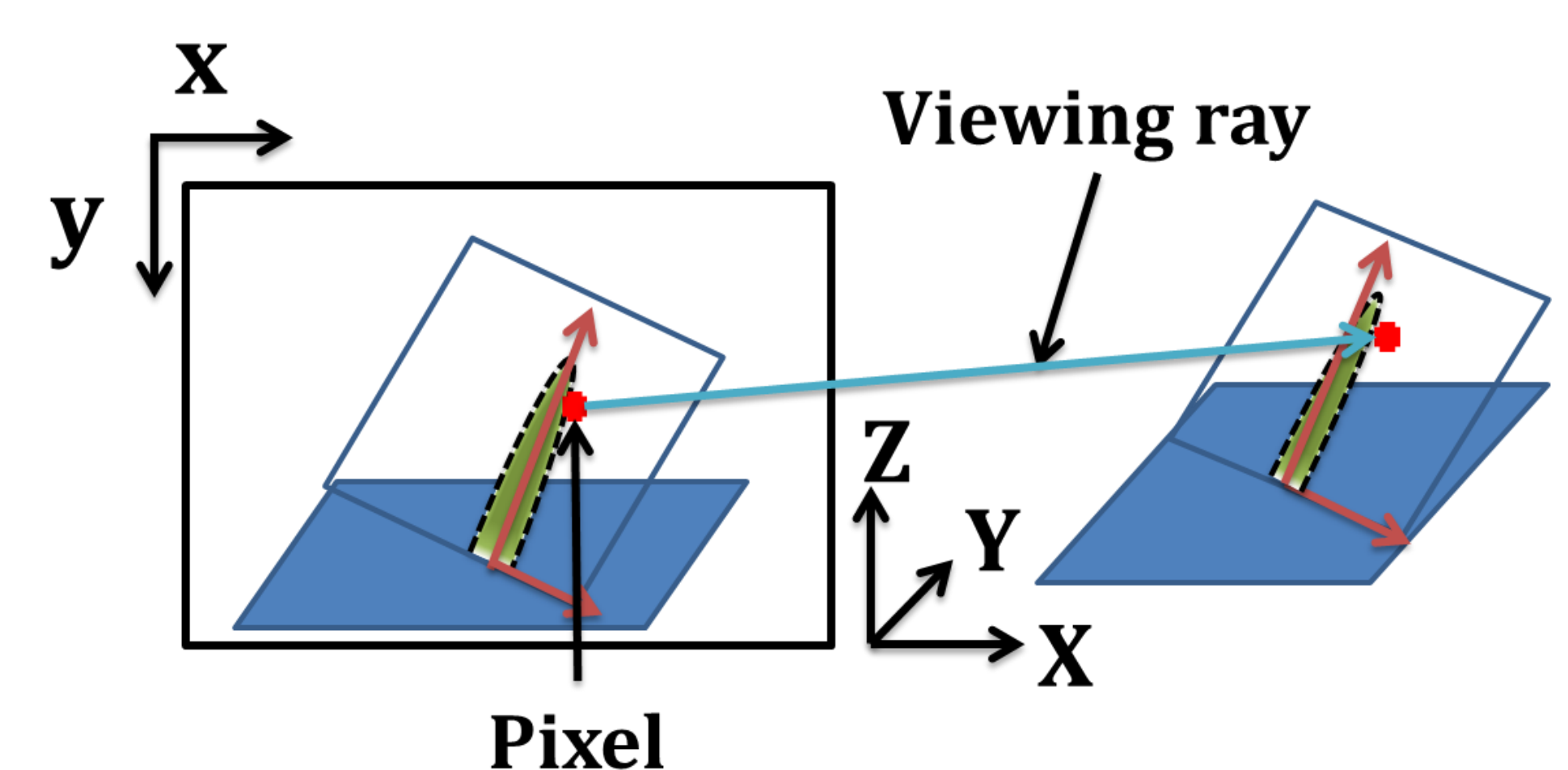
Base elements edition :  
Parametric quadratic particles



Random distribution in a shell over objects



Evaluation : Projecting particles slices on screen



All done in one program evaluated per pixel

### Interactive edition for low memory cost

#### Few bytes for infinite details possibilities

- Size of parameters and program

#### Micro and macro control

- Particles and distribution parameters

#### Fast per-pixel evaluation in real-time

- Direct visualization of modifications

