

# TimeReplayer: Unlocking the Potential of Event Cameras for Video Interpolation

## 1. Performance of optical flow module

The event-based optical flow could more accurately model the nonlinear motion, and provide sparse flow field estimation as guidance. Here we demonstrate and visualize the different flow field in ours method and previous work.

The soccer is kicked up in the scene of Fig. 1. It could be indicated that under the guidance of event stream, the optical estimation module provide a sparse flow field with the right direction of soccer, which is refined into a dense field to warp the input frames. Meanwhile, in SuperSloMo the linear assumption lead to a inaccurate flow estimation. Quantitative ablation study of flow modules are in Tab. 1.

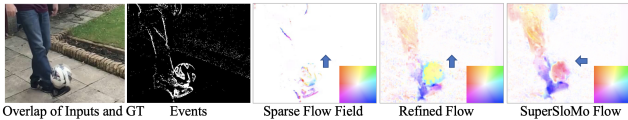


Figure 1. Flow fields. The arrows indicate flow direction of soccer.

Table 1. Quantitative comparison on GoPro dataset.

Method	7 skip (whole)		7 skip (center)	
	PSNR	SSIM	PSNR	SSIM
w/o reverse event	28.16	0.851	26.82	0.832
w/o flow refinement	29.35	0.891	28.67	0.859
Ours	34.02	0.960	33.39	0.952