

Optimize upwind by removing reductions #301

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Merged

sfiligoi merged 2 commits into gafusion:master from sfiligoi:upwind_230301

on Mar 2

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+13 -46

Changes from 1 commit

File filter

Conversations

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Optimize cgyro_upwind ACC loop splitting

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master (#301)

Igor Sfiligoi committed on Mar 1

commit 68cb8b107c82b178f4dfd4f01c6bf63928f5df43

11 cgyro/src/cgyro_upwind.F90			
31	call timer_lib_in('str')	31	call timer_lib_in('str')
32		32	
33	#ifdef _OPENACC	33	#ifdef _OPENACC
34	- !\$acc parallel loop collapse(3) gang &	34	+ !\$acc parallel loop collapse(3) gang <u>vector independent</u> &
35	- !\$acc& private(res_loc,iv) &	35	+ !\$acc& private(res_loc,iv, <u>iv_loc</u>) &
36	!\$acc& present(g_x,upfac1,is_v,upwind_res_loc) &	36	!\$acc& present(g_x,upfac1,is_v,upwind_res_loc) &
37	!\$acc& present(nt1,nt2,ns1,ns2,nc,nv1,nv2) default(none)	37	!\$acc& present(nt1,nt2,ns1,ns2,nc,nv1,nv2) default(none)
38	do itor=nt1,nt2	38	do itor=nt1,nt2
39	do is=ns1,ns2	39	do is=ns1,ns2
40	do ic=1,nc	40	do ic=1,nc
41	res_loc = (0.0,0.0)	41	res_loc = (0.0,0.0)
42	-	42	do iv=nv1,nv2
43	- !\$acc loop vector private(iv_loc) reduction(+:res_loc)	43	iv_loc = iv-nv1+1
44	do iv=nv1,nv2	44	if (is == is_v(iv)) then
45	iv_loc = iv-nv1+1	136	call timer_lib_in('str')
46	if (is == is_v(iv)) then	137	
138	call timer_lib_in('str')	138	#ifdef _OPENACC
139		139	+ !\$acc parallel loop collapse(3) gang <u>vector independent</u> &
140	#ifdef _OPENACC	140	+ !\$acc& private(res_loc,iv, <u>iv_loc</u>) &
141	- !\$acc parallel loop collapse(3) gang &	141	!\$acc& present(g_x,upfac1,is_v,upwind32_res_loc) &
142	- !\$acc& private(res_loc,iv) &	142	!\$acc& present(nt1,nt2,ns1,ns2,nc,nv1,nv2) default(none)
143	!\$acc& present(g_x,upfac1,is_v,upwind32_res_loc) &	143	do itor=nt1,nt2
144	!\$acc& present(nt1,nt2,ns1,ns2,nc,nv1,nv2) default(none)	144	do is=ns1,ns2
145	do itor=nt1,nt2	145	do ic=1,nc
146	do is=ns1,ns2	146	res_loc = (0.0,0.0)
147	do ic=1,nc	147	
148	res_loc = (0.0,0.0)	148	do iv=nv1,nv2
149		149	iv_loc = iv-nv1+1
150	- !\$acc loop vector private(iv_loc) reduction(+:res_loc)	150	if (is == is_v(iv)) then
151	do iv=nv1,nv2		
152	iv_loc = iv-nv1+1		
153	if (is == is_v(iv)) then		