



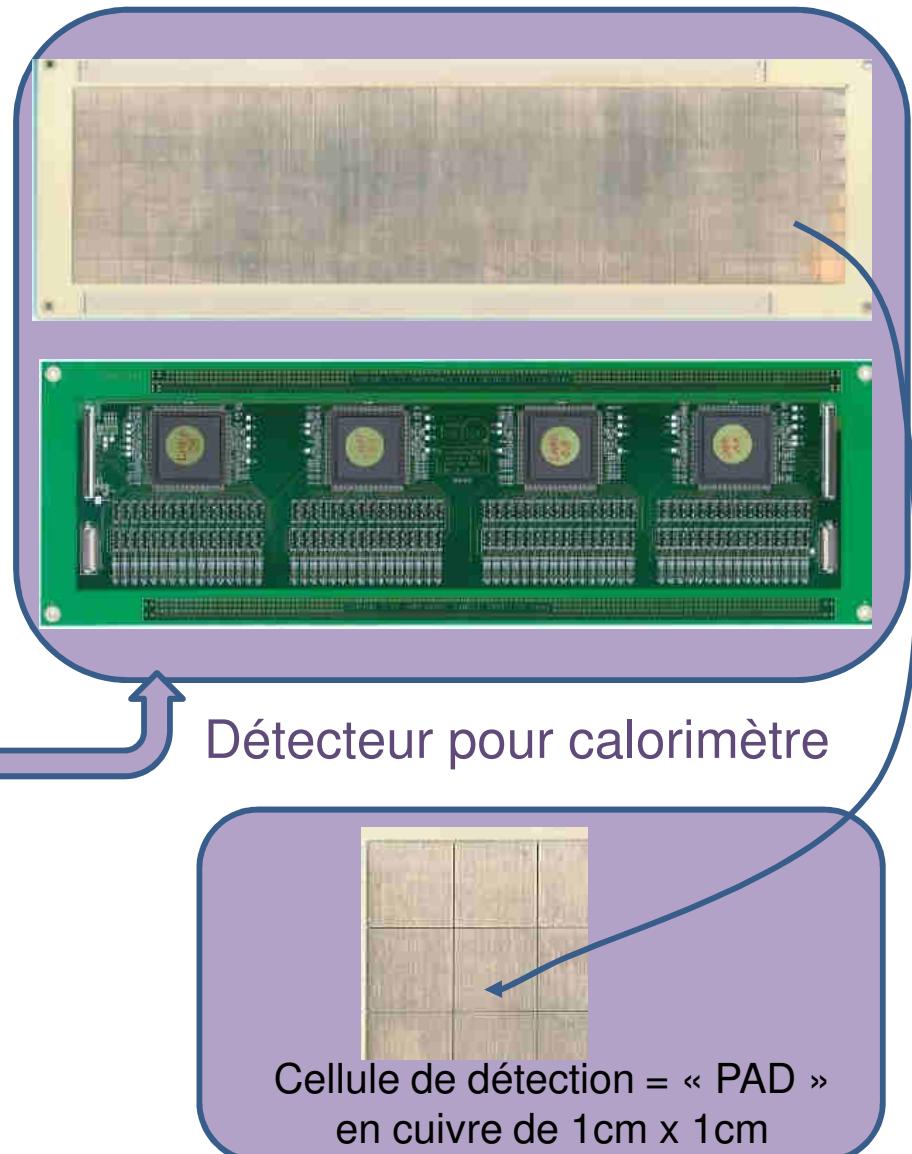
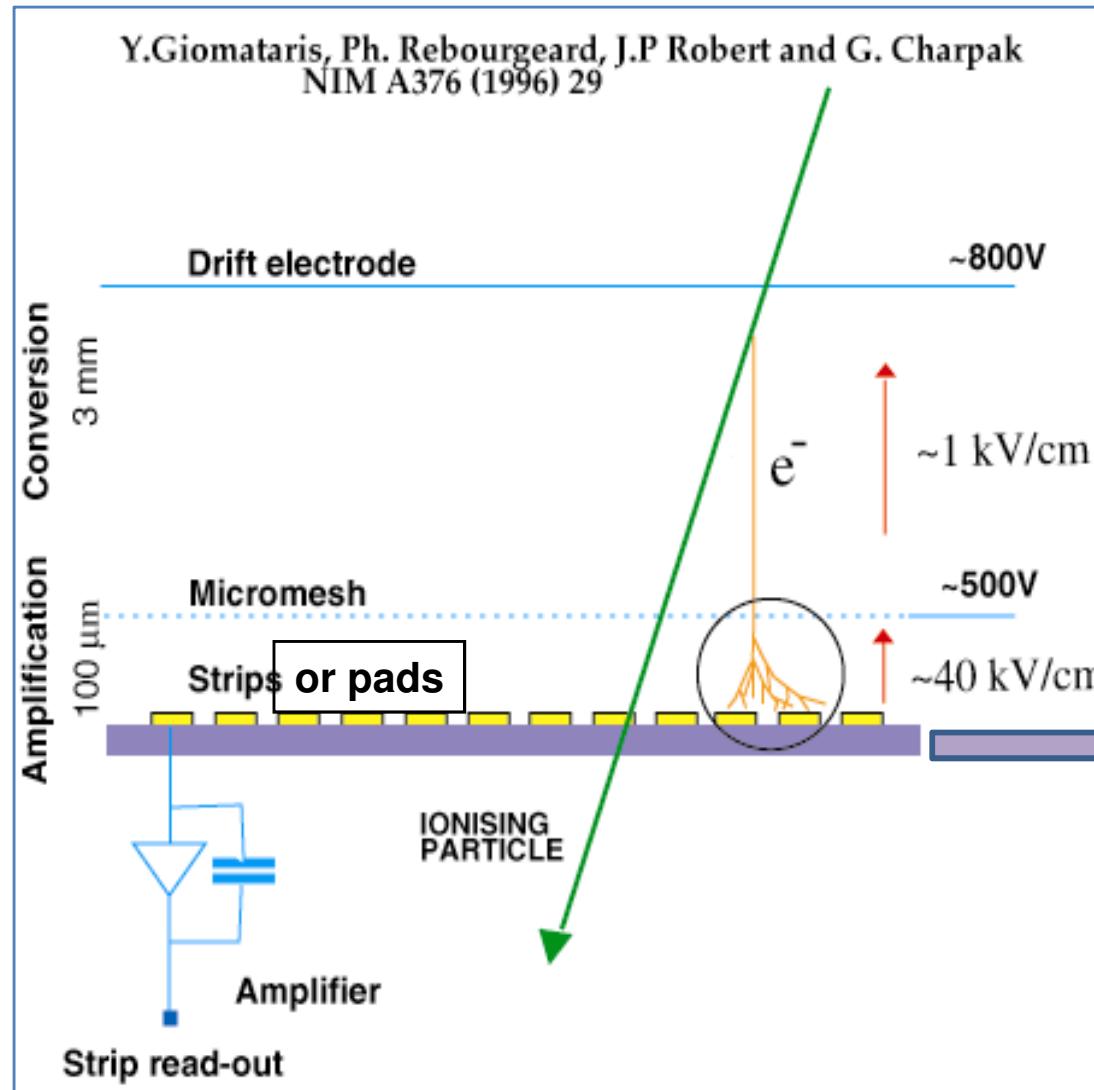
Laboratoire d'Annecy de Physique des Particules

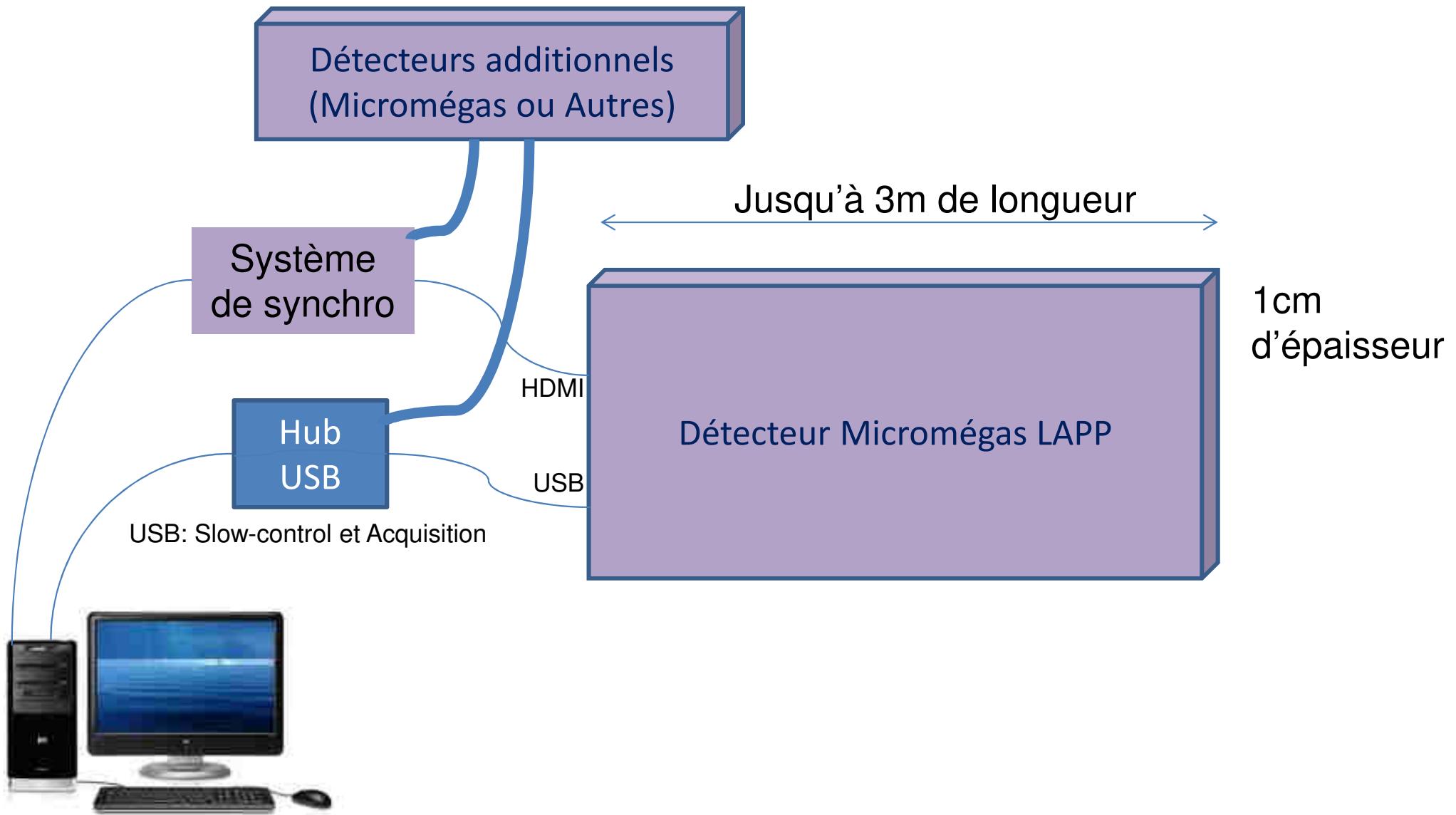
LabVIEW pour détecteur Micromégas

Utilisation de Variables Globales Fonctionnelles
(FGV)

Cyril Drancourt, Vendredi 23 Mars 2018

Journée AlpesVIEW/CNRS 2018







1/3 de M^2 = SLAB

Unité contrôlée par LabVIEW
(une liaison USB)

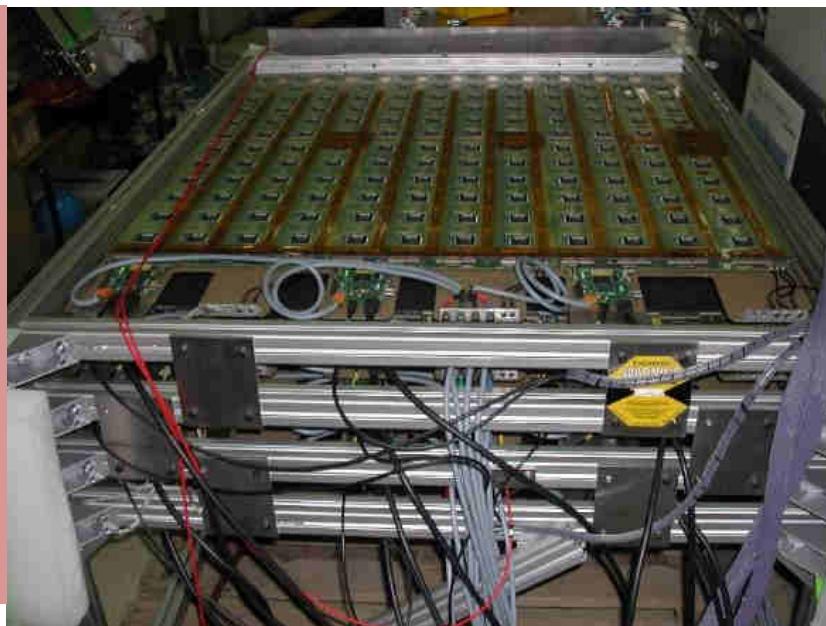


1 M^2 = 3 liaisons USB
Appel de 3 pg LabVIEW
identique

37000 PADS 1cmx1cm
(cellule de détections)

576 ASIC
Chacun 800bits
de configuration

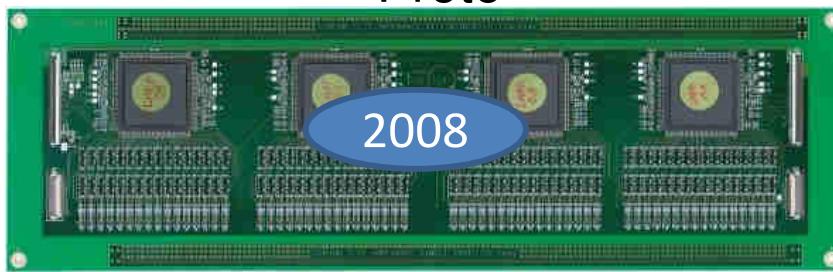
461000 bits
De slow-control.....



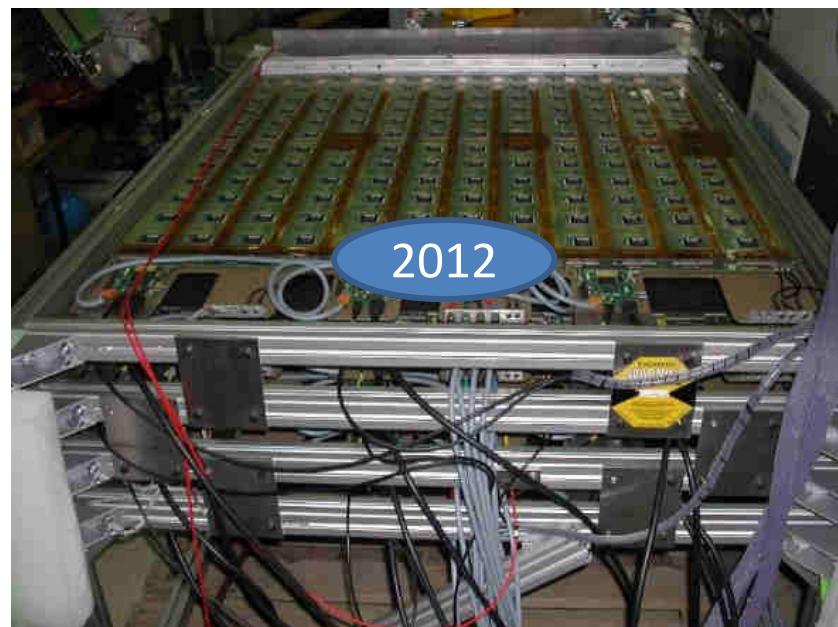
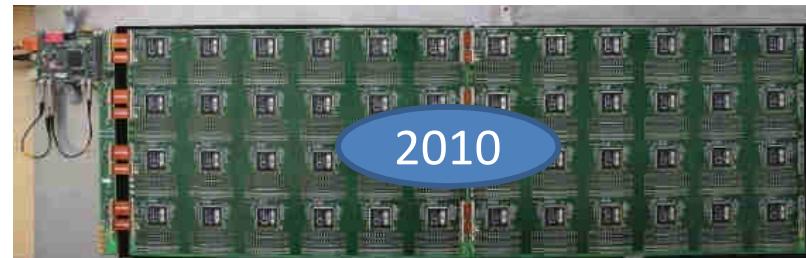
Banc de Manip
Avec 4 détecteurs
de $1M^2$ chacun

= 12 liaisons USB
Appel de 12 pg en //

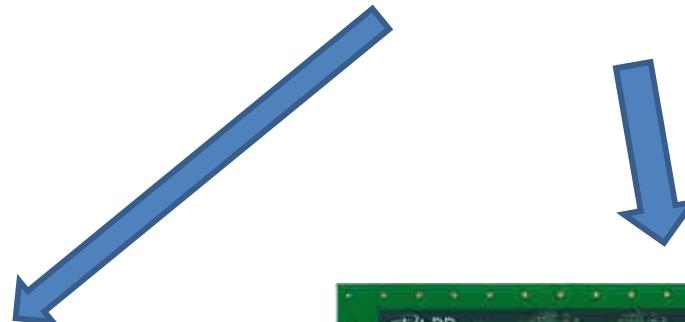
Proto



SLAB

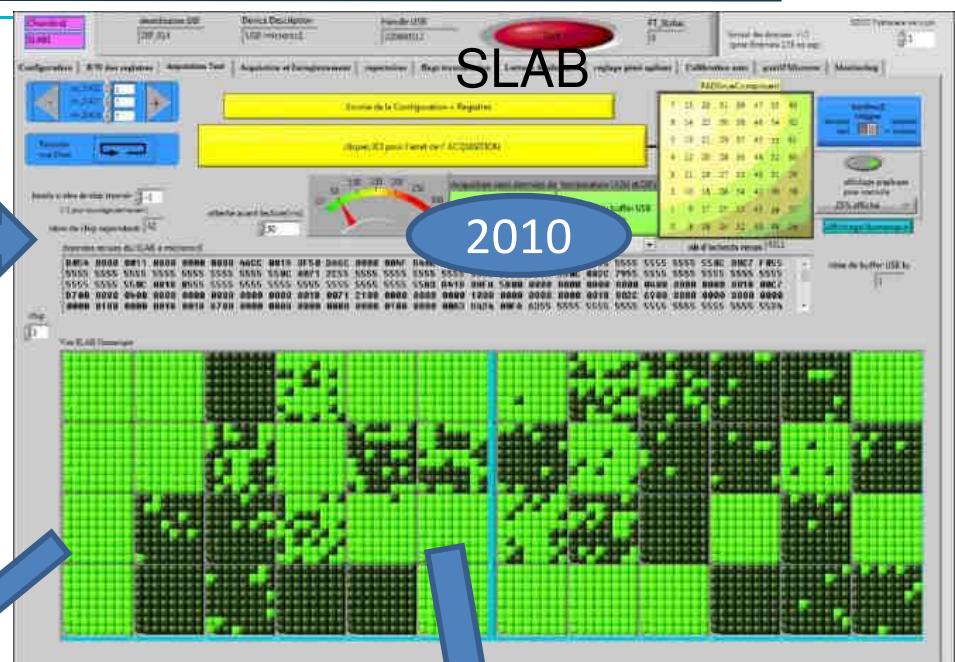
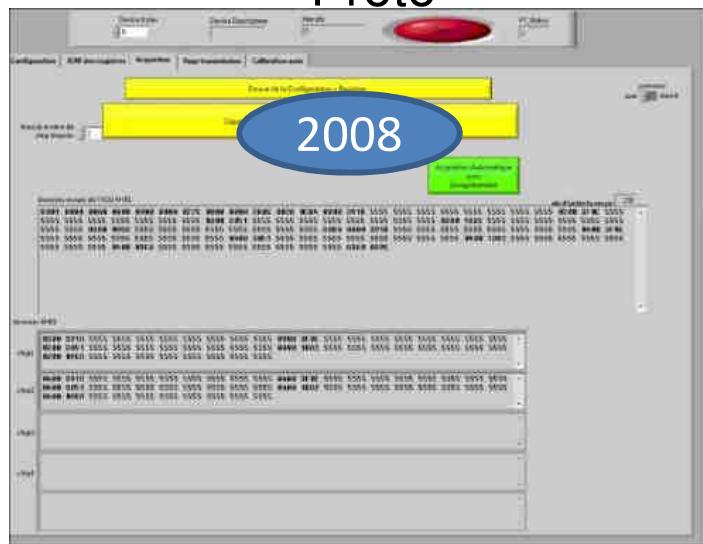


DéTECTEUR M2



DéTECTEUR ROND (48cm x 48cm)

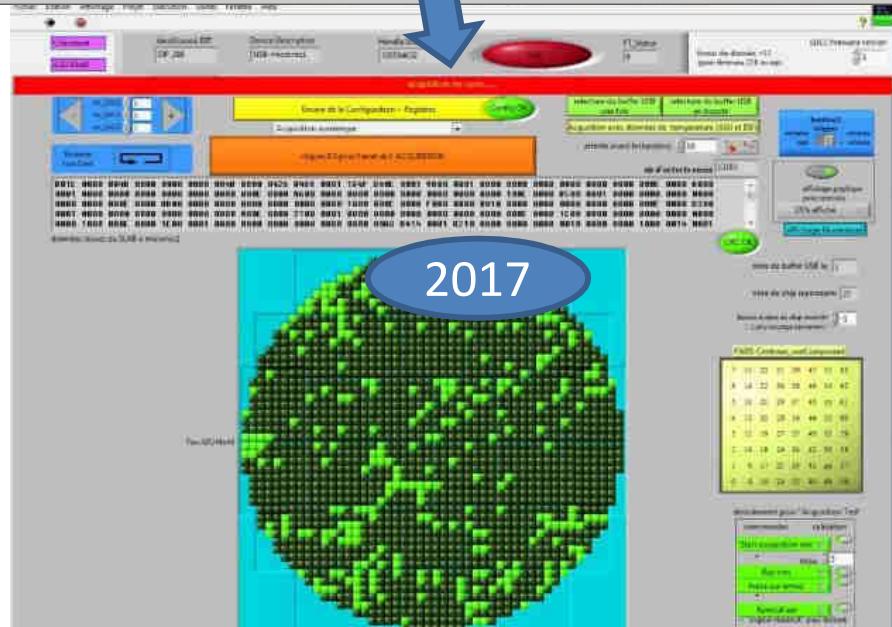
Proto

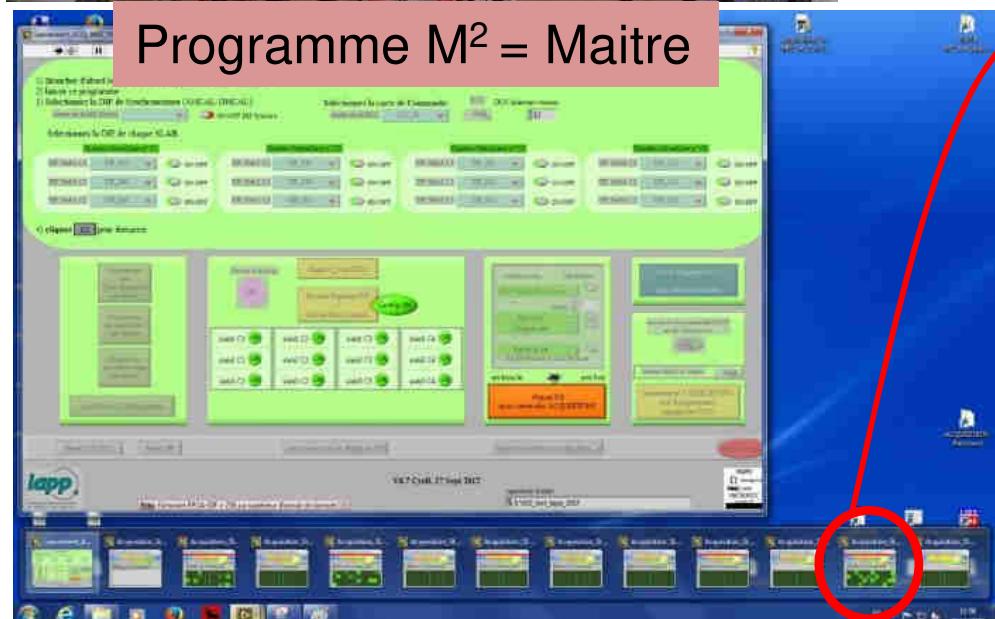
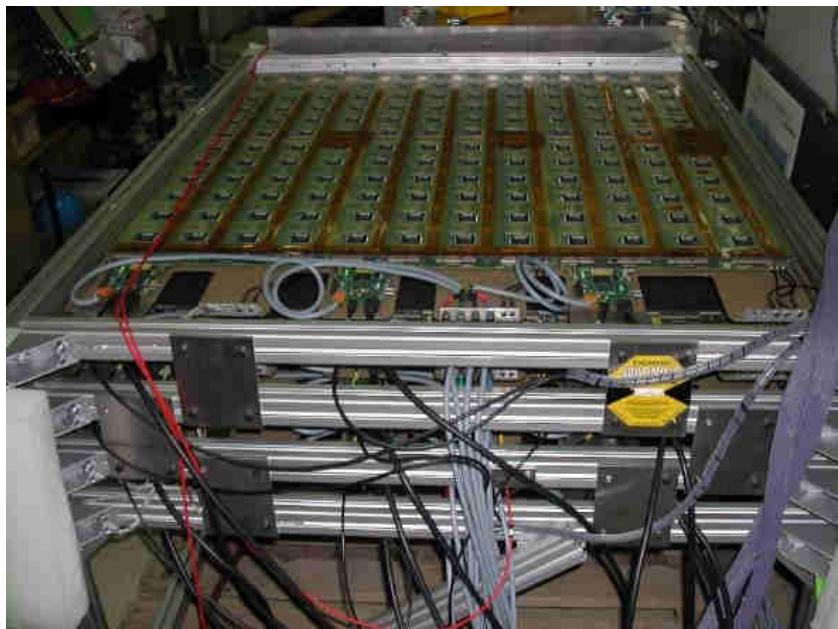


2012



2017





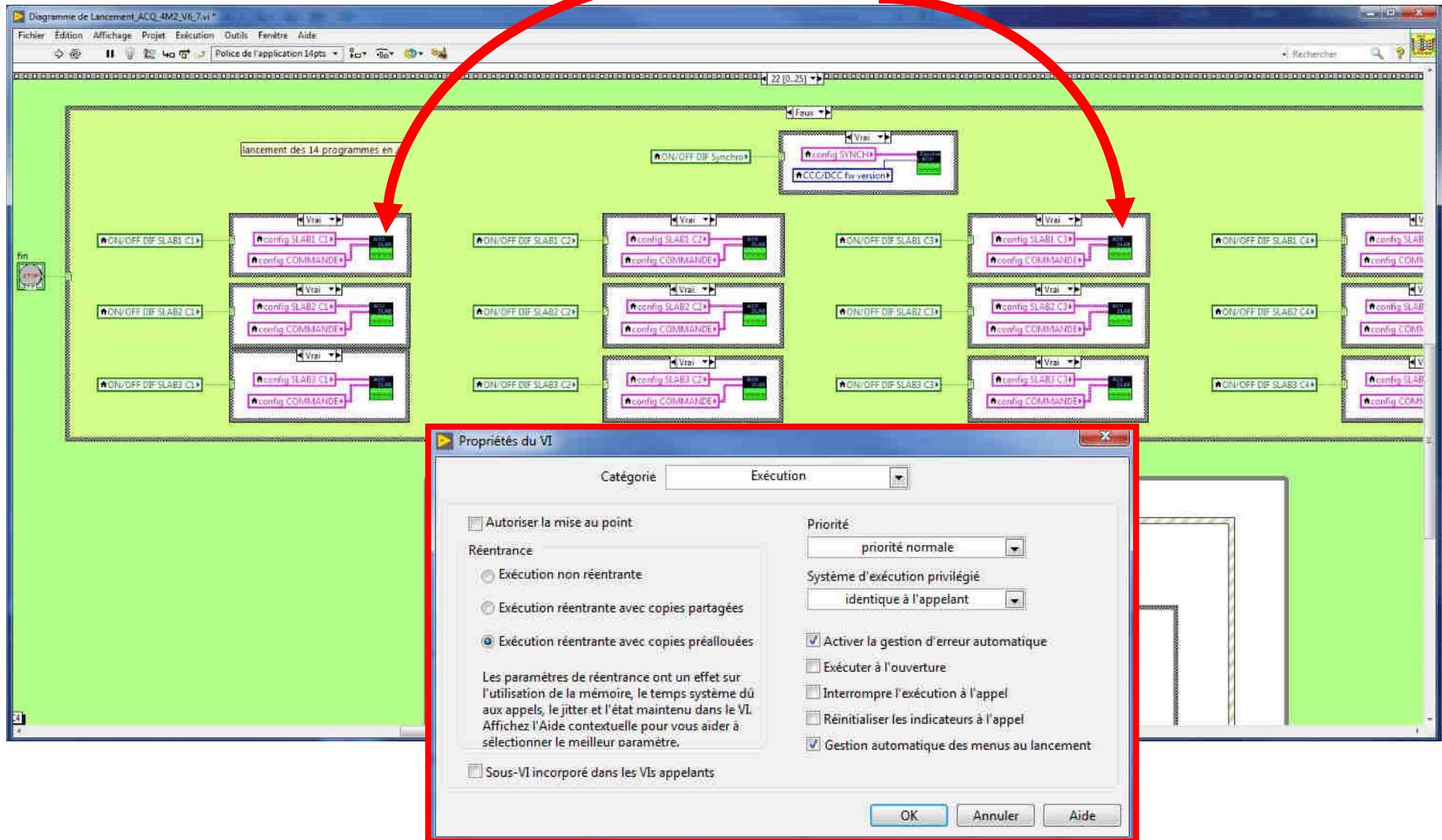
programme SLAB

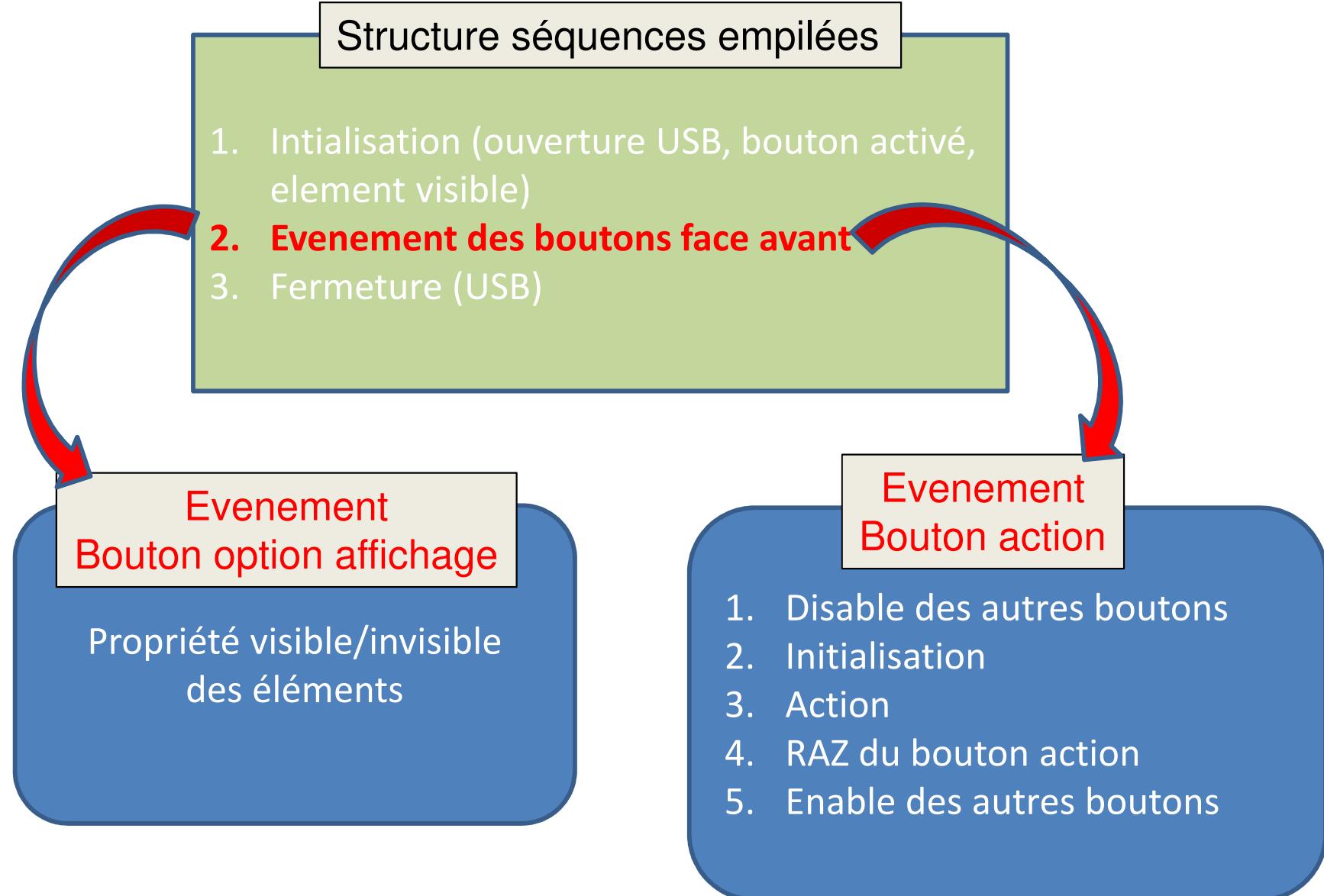


Un programme SLAB
Fait sa propre acquisition par sa liaison USB

Le programme Maitre
appelle 12 programmes SLAB en //

VI SLAB réentrant avec copies préallouées





The screenshot shows the MicroRoc Qualification software interface. At the top, there are tabs for Configuration, R/W des registres, Acquisition Test, Acquisition et Enregistrement, repertoires, flags transmission, Lecture Analogique, réglage géné agilent, Calibration auto, qualifMicroroc, and Monitoring. The 'Acquisition et Enregistrement' tab is active.

On the left, there are sections for 'Initialisation Spéciale' (Number of first Plateau: 1, Number of first Chip: 1) and 'Envoi de mail en fin de process' (checkbox 'NON' is checked, recipient: Cyril.Drancourt@lapp.in2p3.fr).

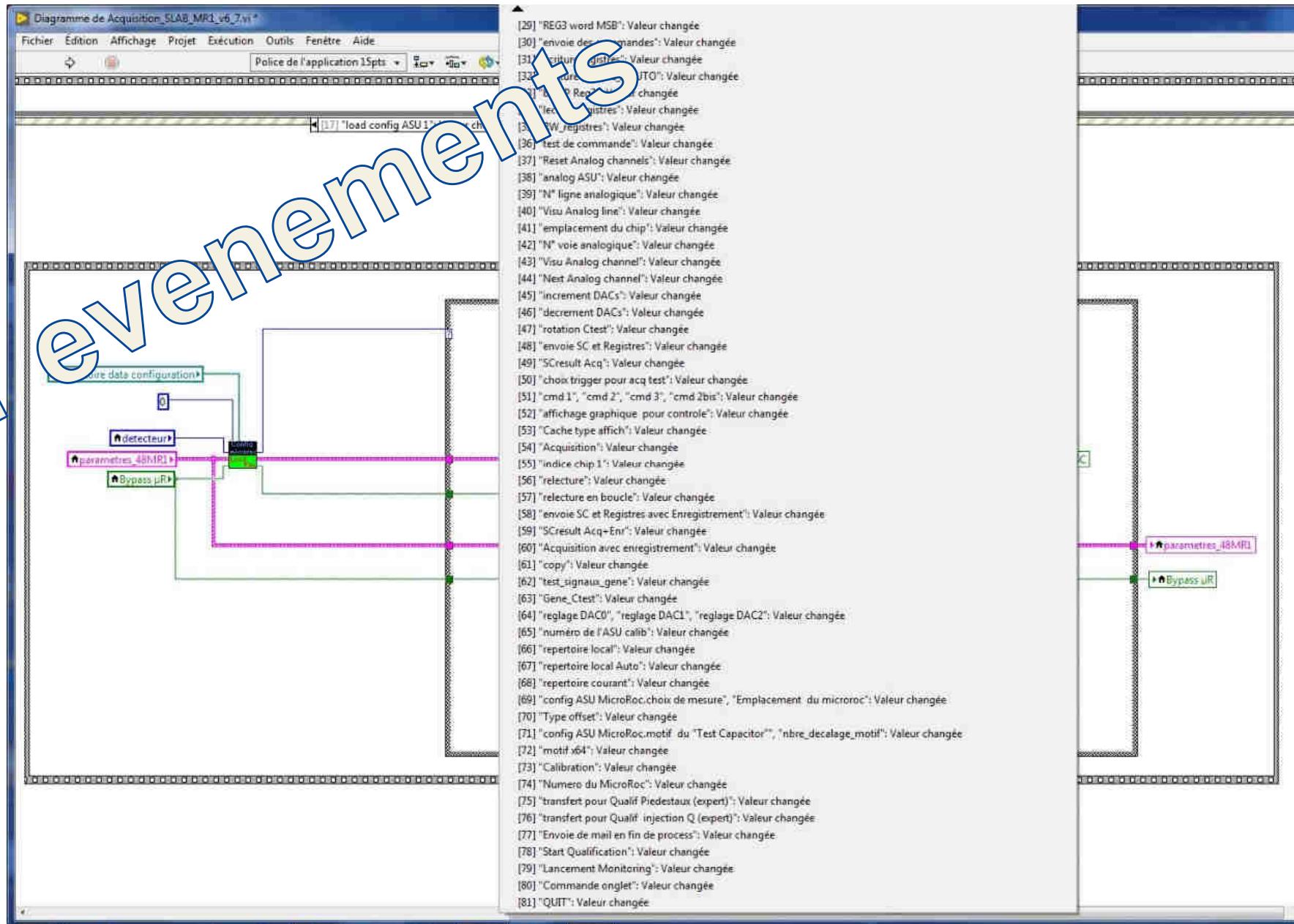
The main area features a flowchart with five green rectangular boxes connected by arrows:

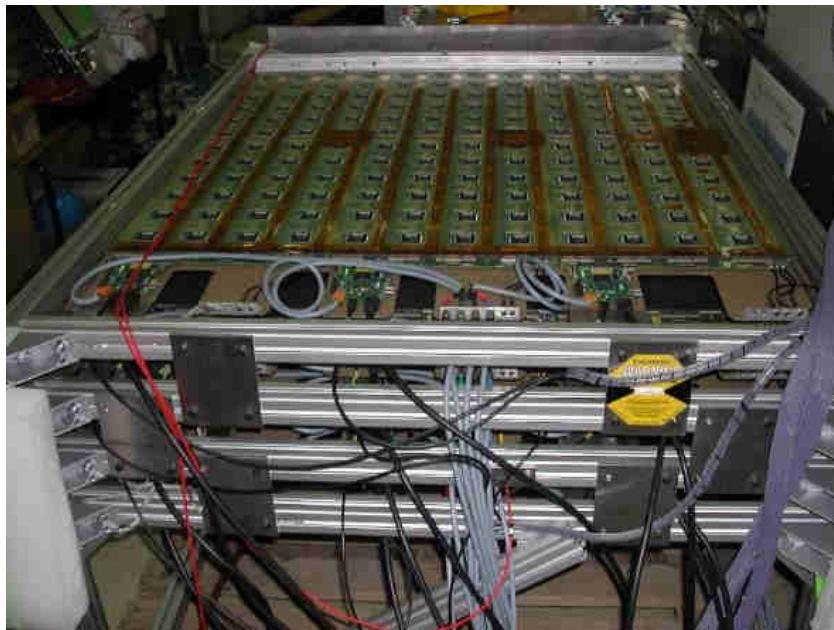
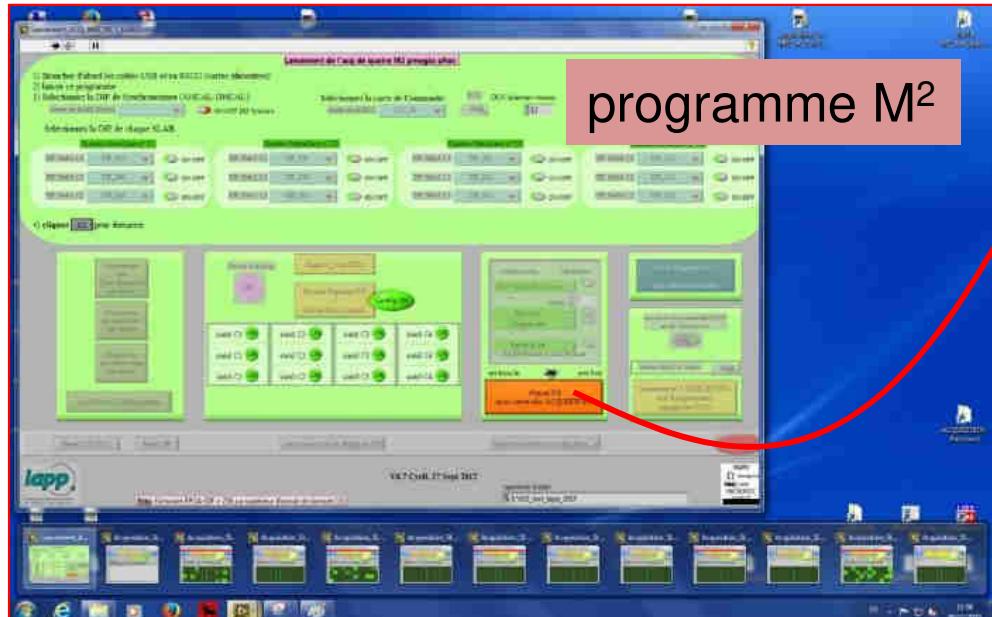
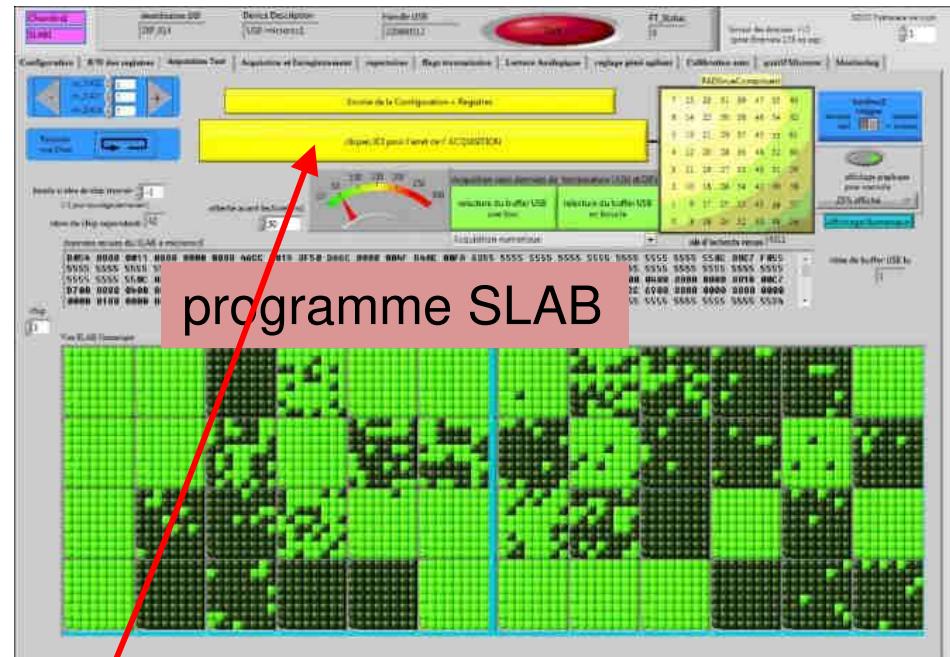
- Step1: Placement du Chip
- Step2: Test de Slow-Control
- Step3: Test des 64 entrées (with a red circular icon labeled 'fin 64entrees')
- Step4: Mesure des Piedestaux
- Step5: Injection de Charges

On the right, there is a 16x16 grid labeled 'Plateau MicroRoc' representing the test sites. The grid is labeled with 'μR' in each cell. Below the grid, it says 'Plateau N° 1' and 'Case N° 1'.

At the bottom, a yellow bar contains the text 'Cliquez ici pour le Lancement des Tests de Qualification'.

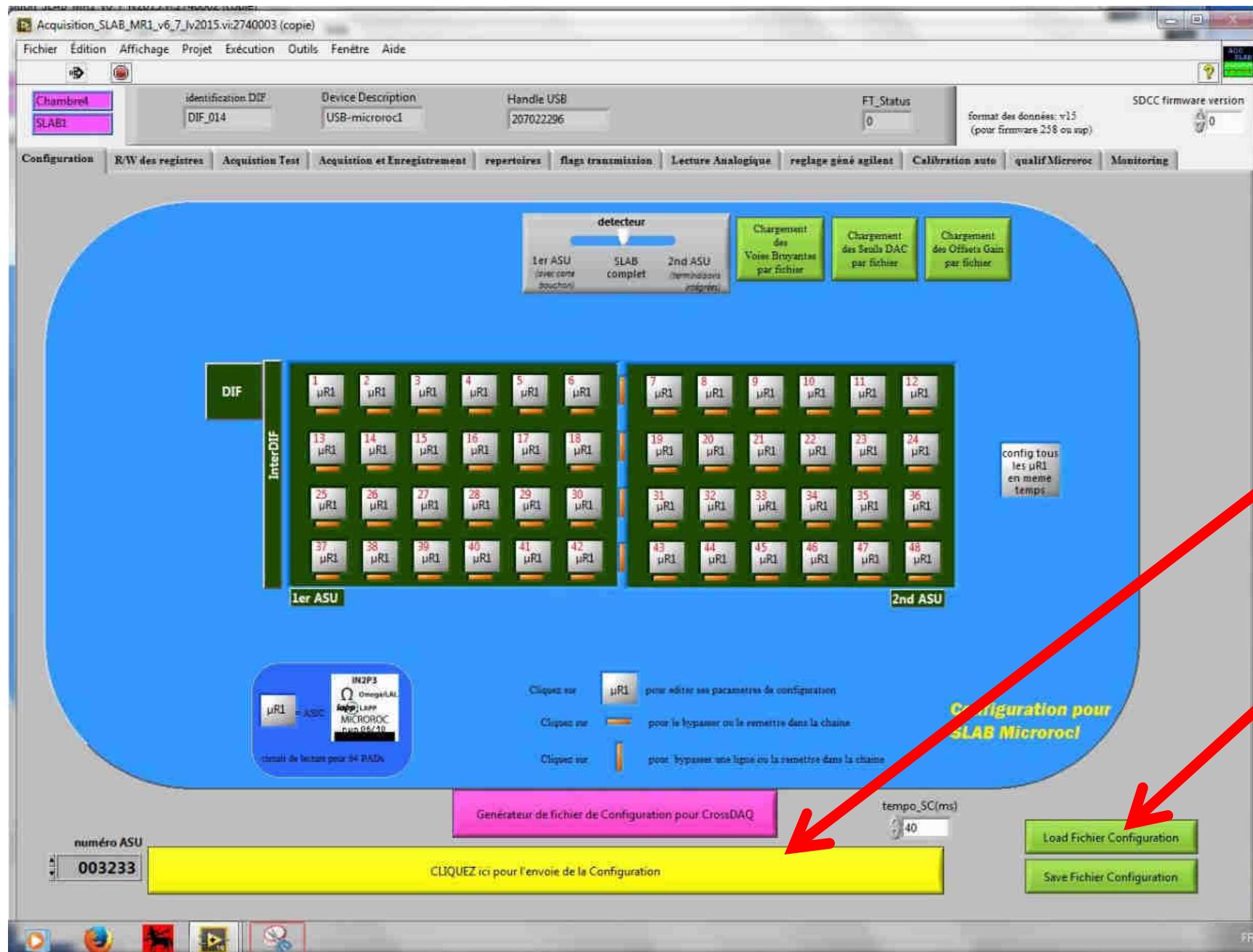
81




4 DéTECTEURS M²

programme M²


SLAB

Un bouton de commande du programme M² va déclencher le même évènement dans chacun des 12 programmes SLAB

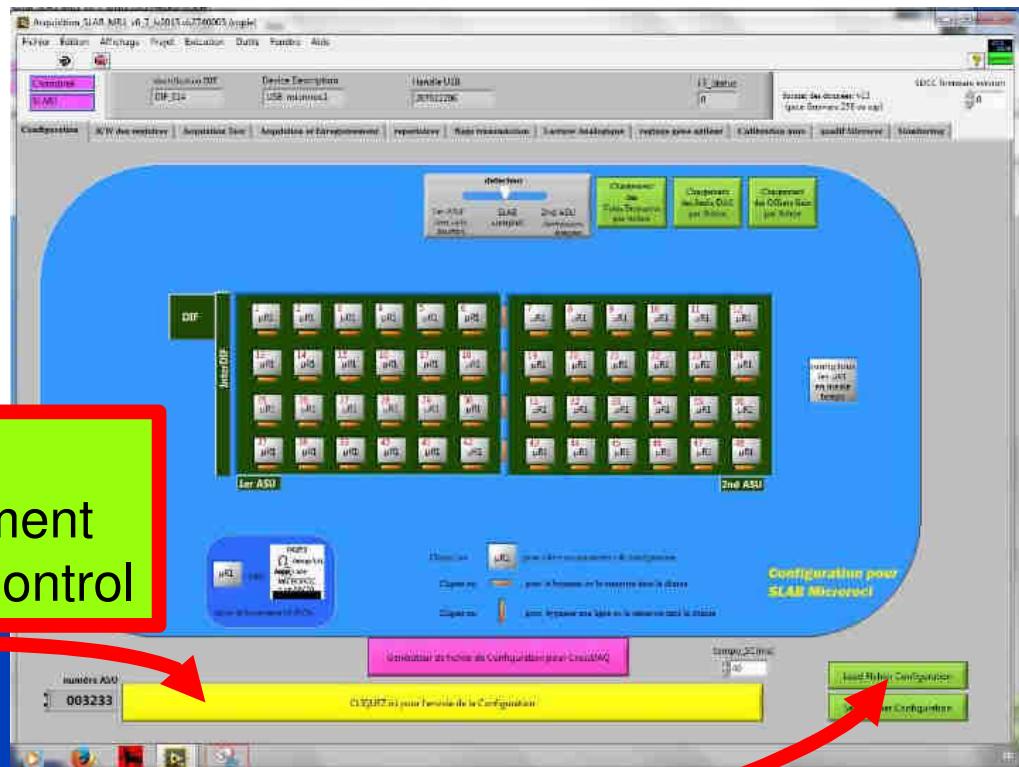
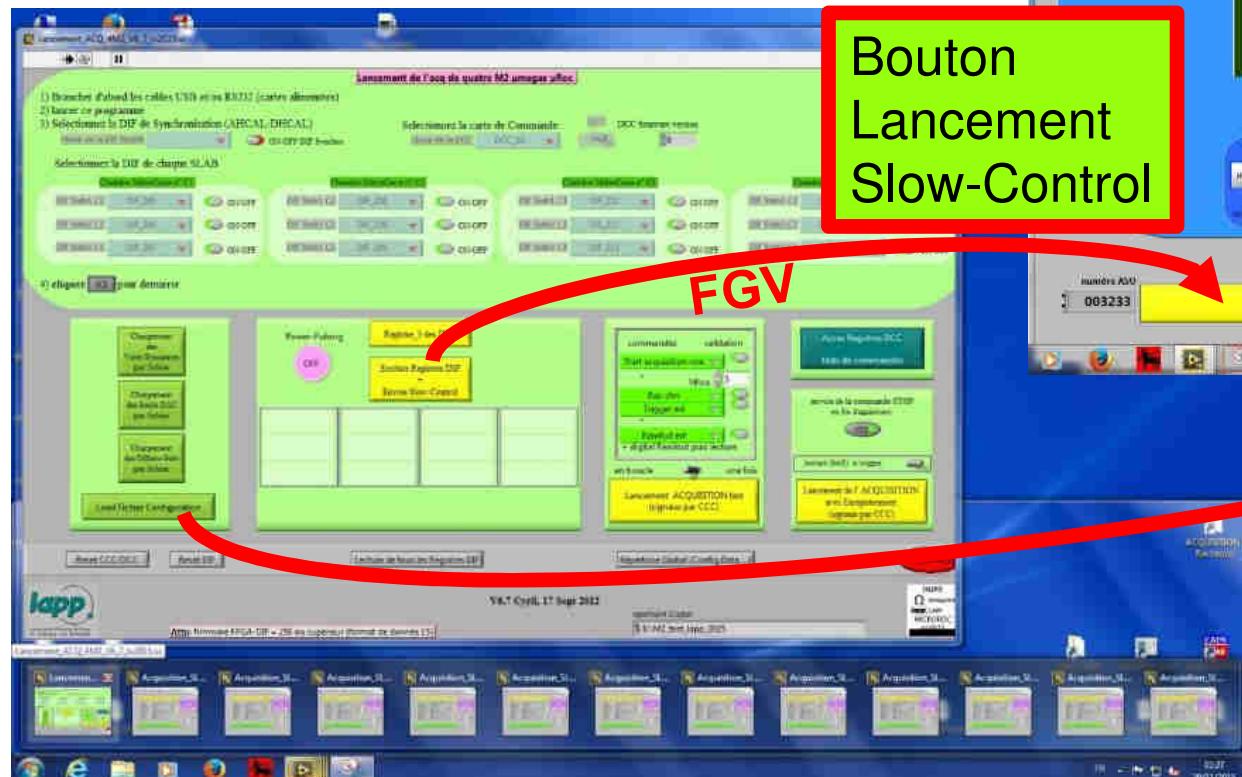


Exemples:

Bouton
Lancement
Slow-Control

Bouton
Charge
Config File

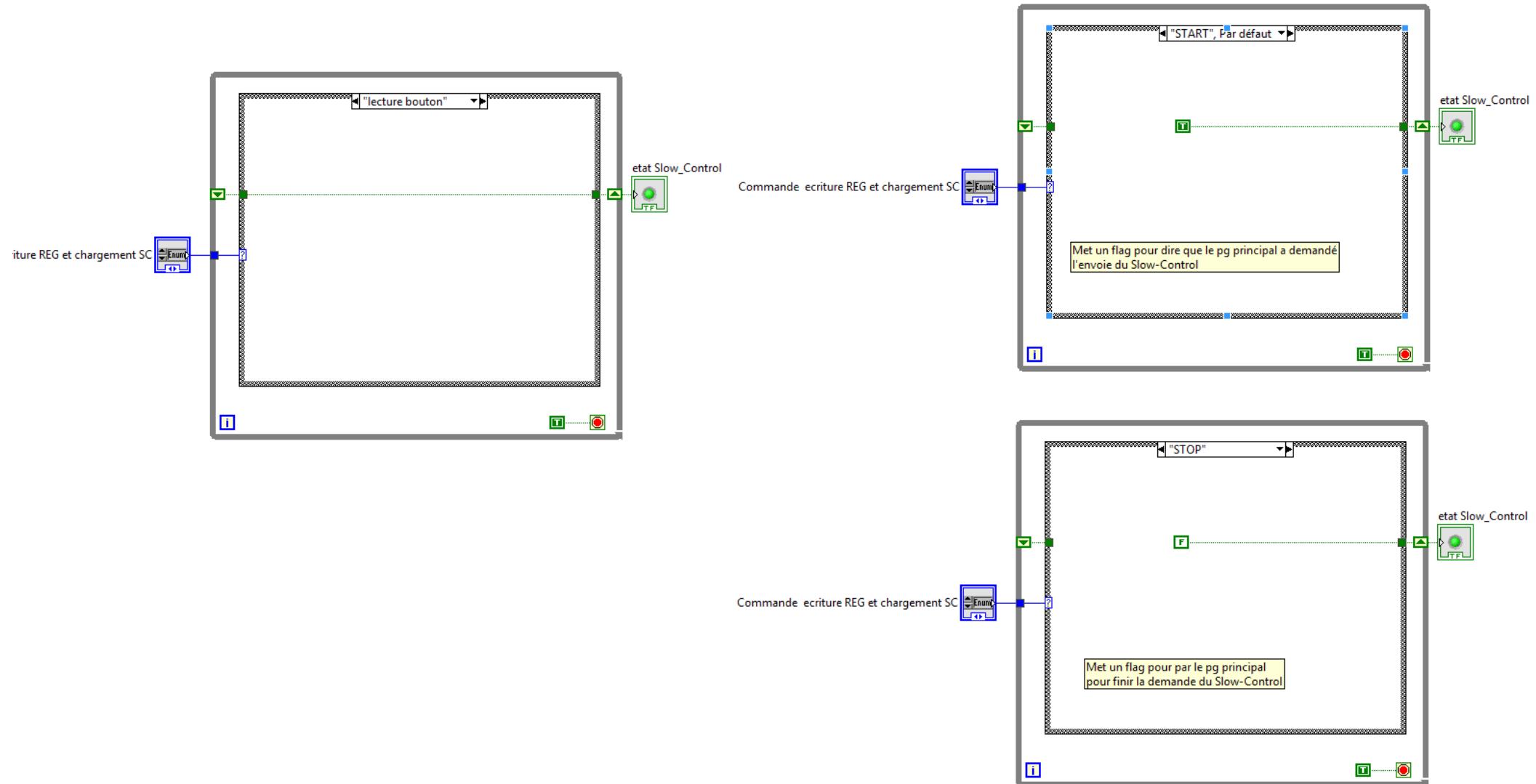
Déclenchement des évènements SLAB Par le programme principal M²

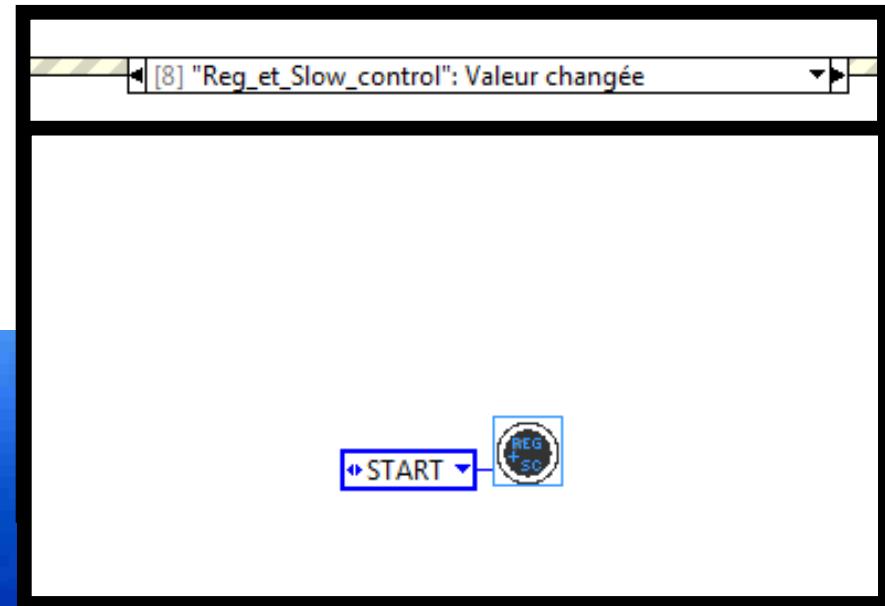
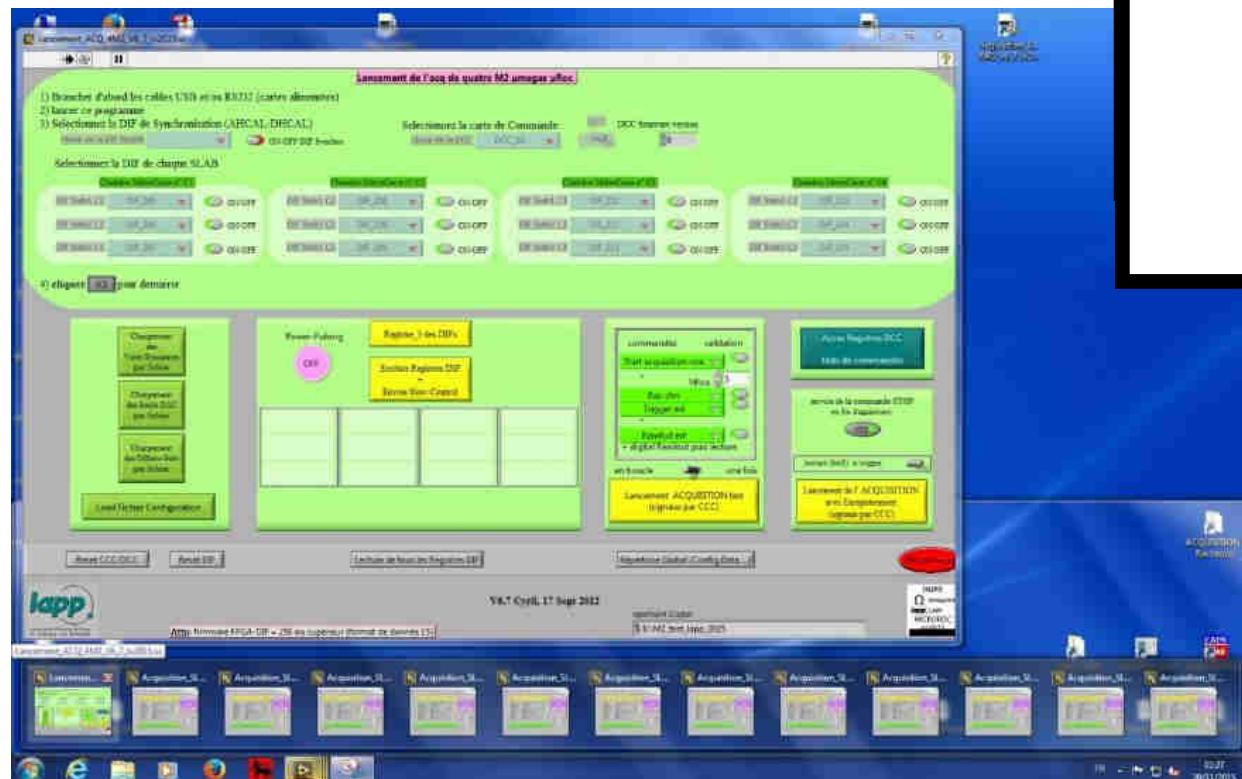


Bouton
Charge
Config File

Passage par variables Fonctionnelles (FGV)

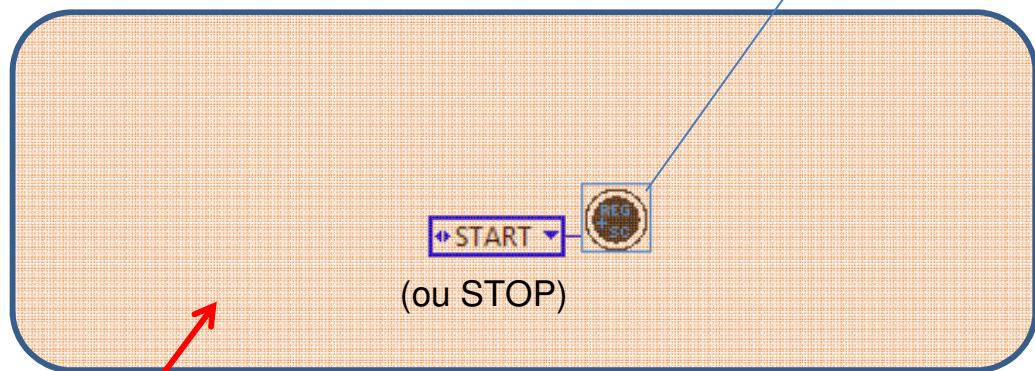
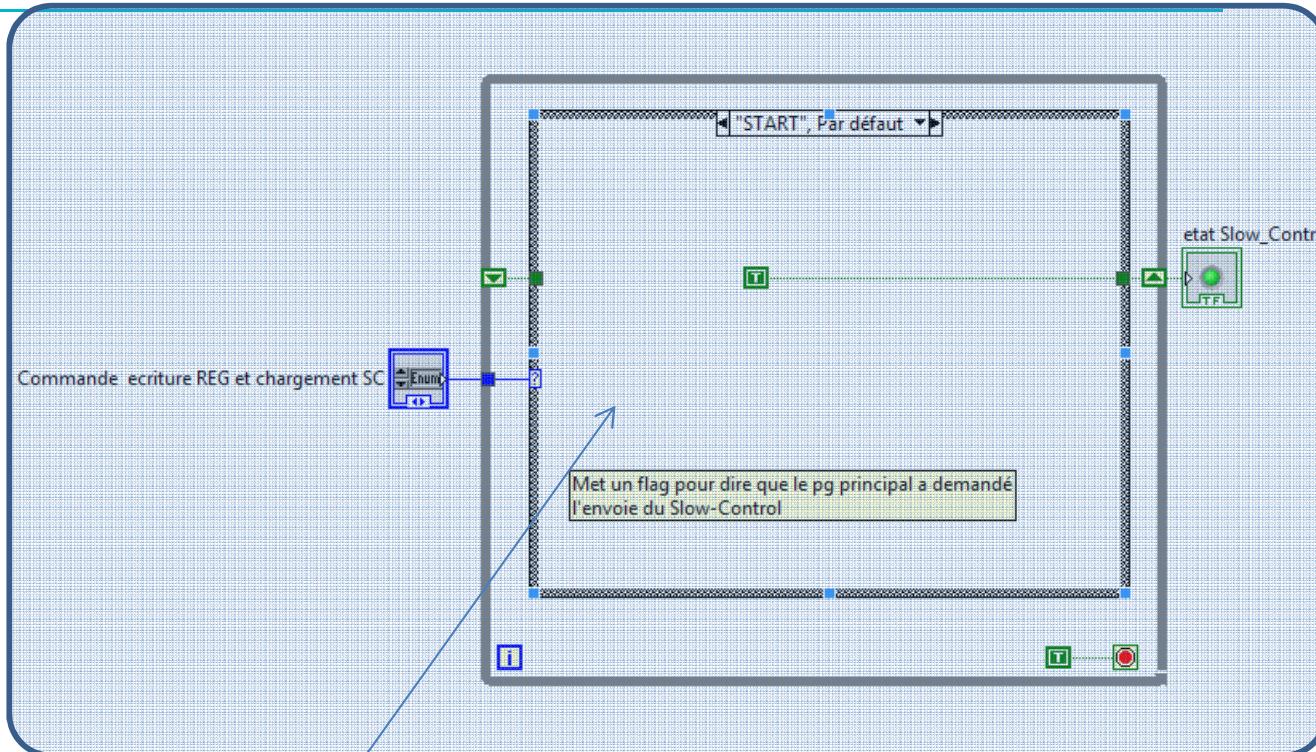
VI FGV non-réentrant







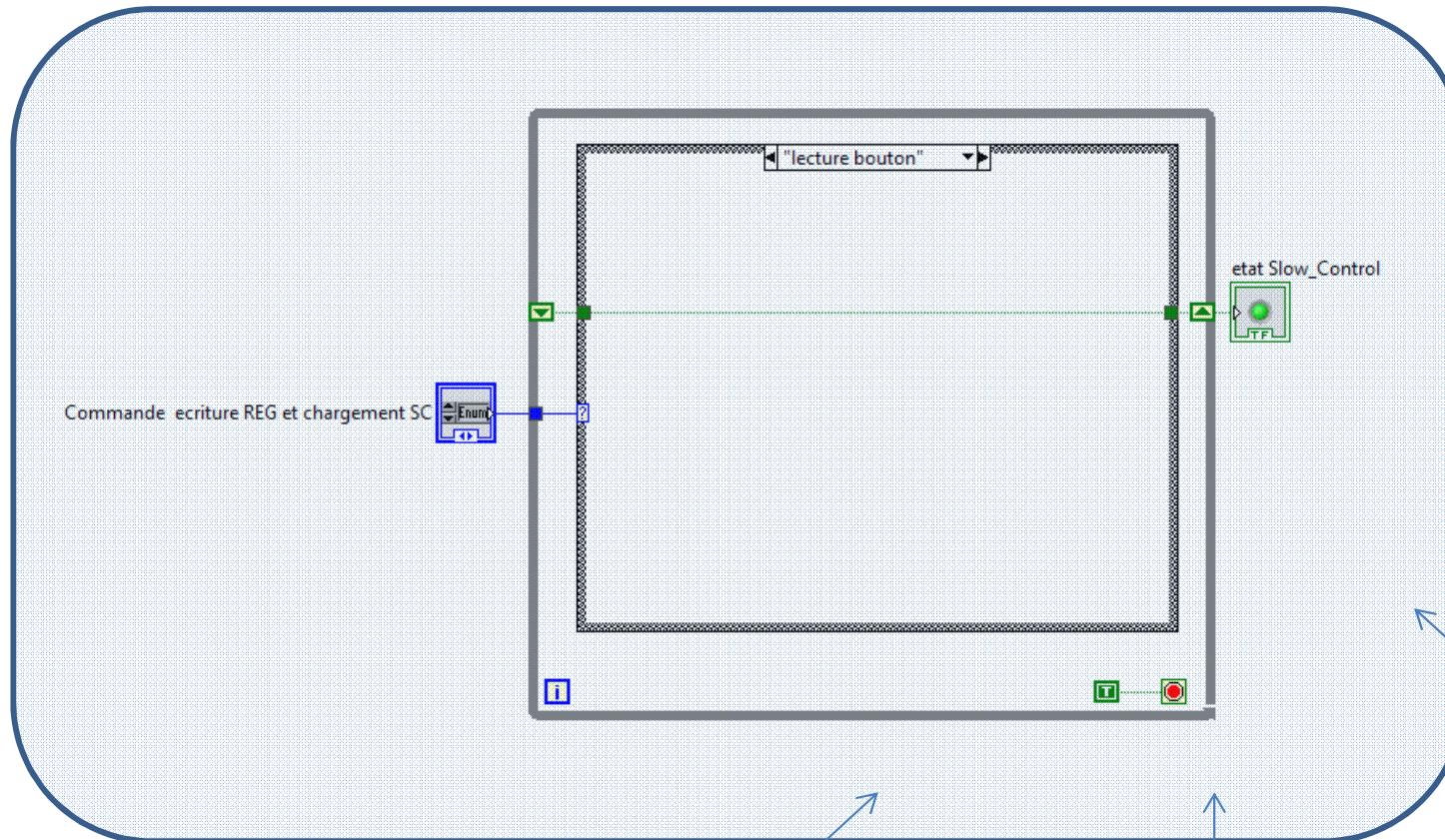
Les 12 programmes
SLAB (en //)
vont jouer le
même évènement
« envoie SC.... »



"WORM : Write Once, Read Many"

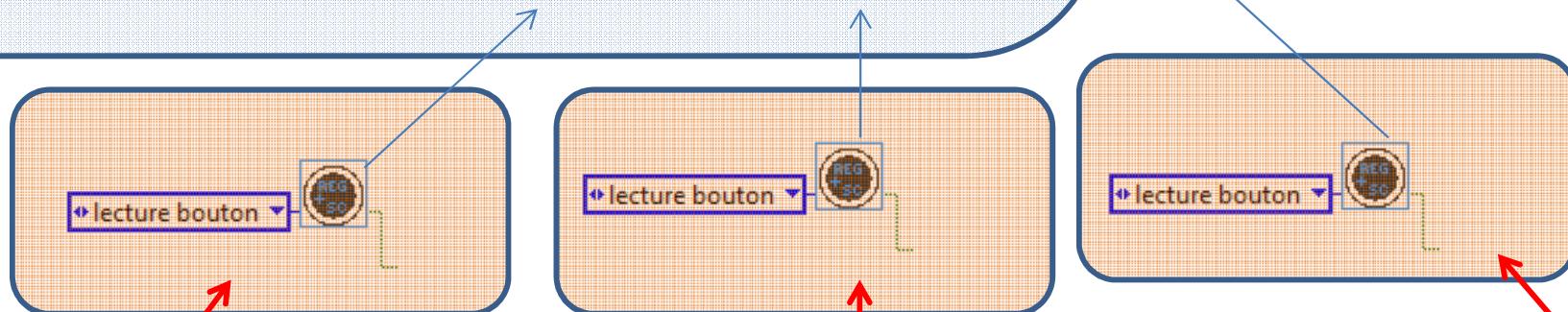
*Pas d'intérêt majeur par rapport
à une variable Globale*

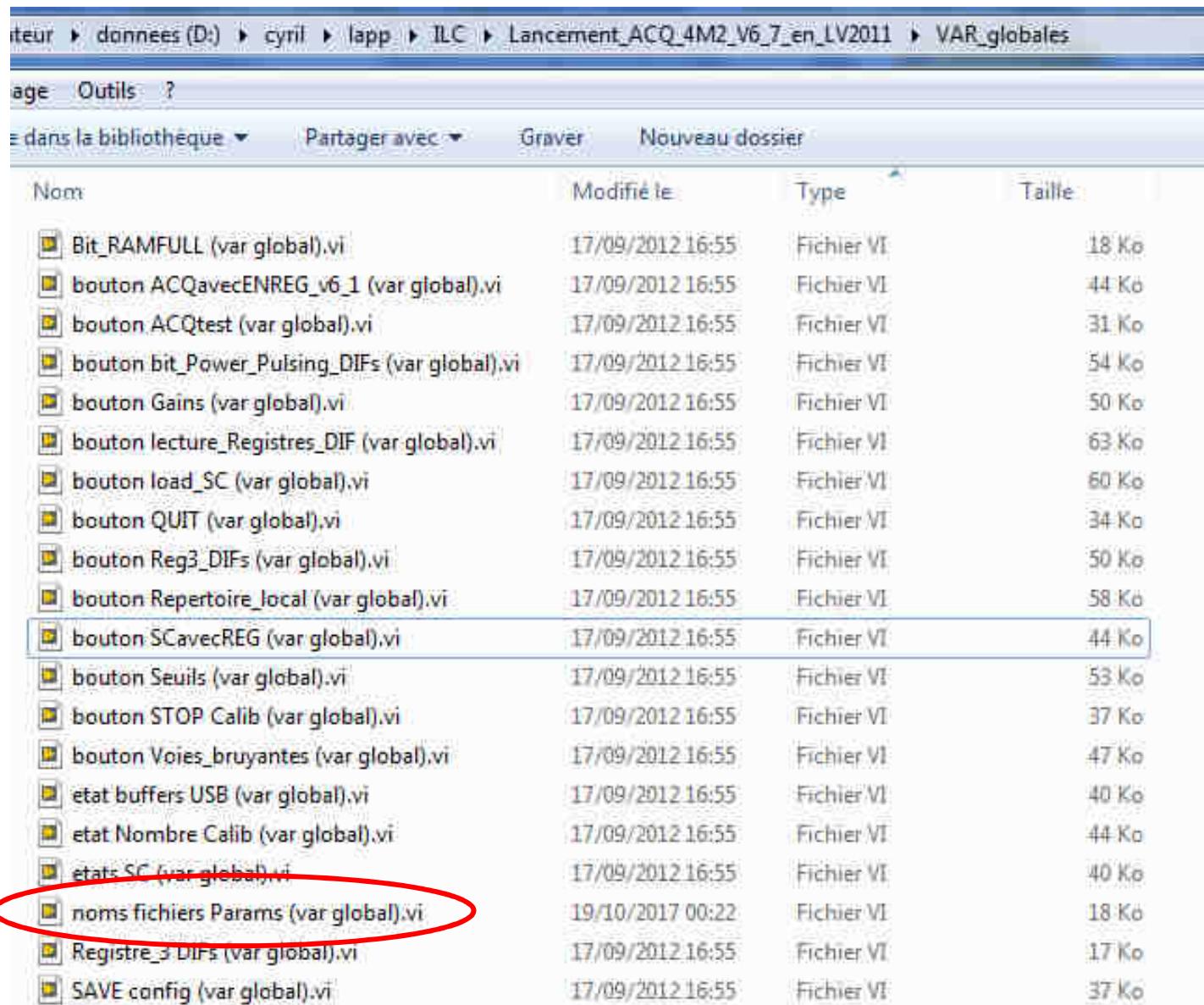




VI FGV non-réentrant

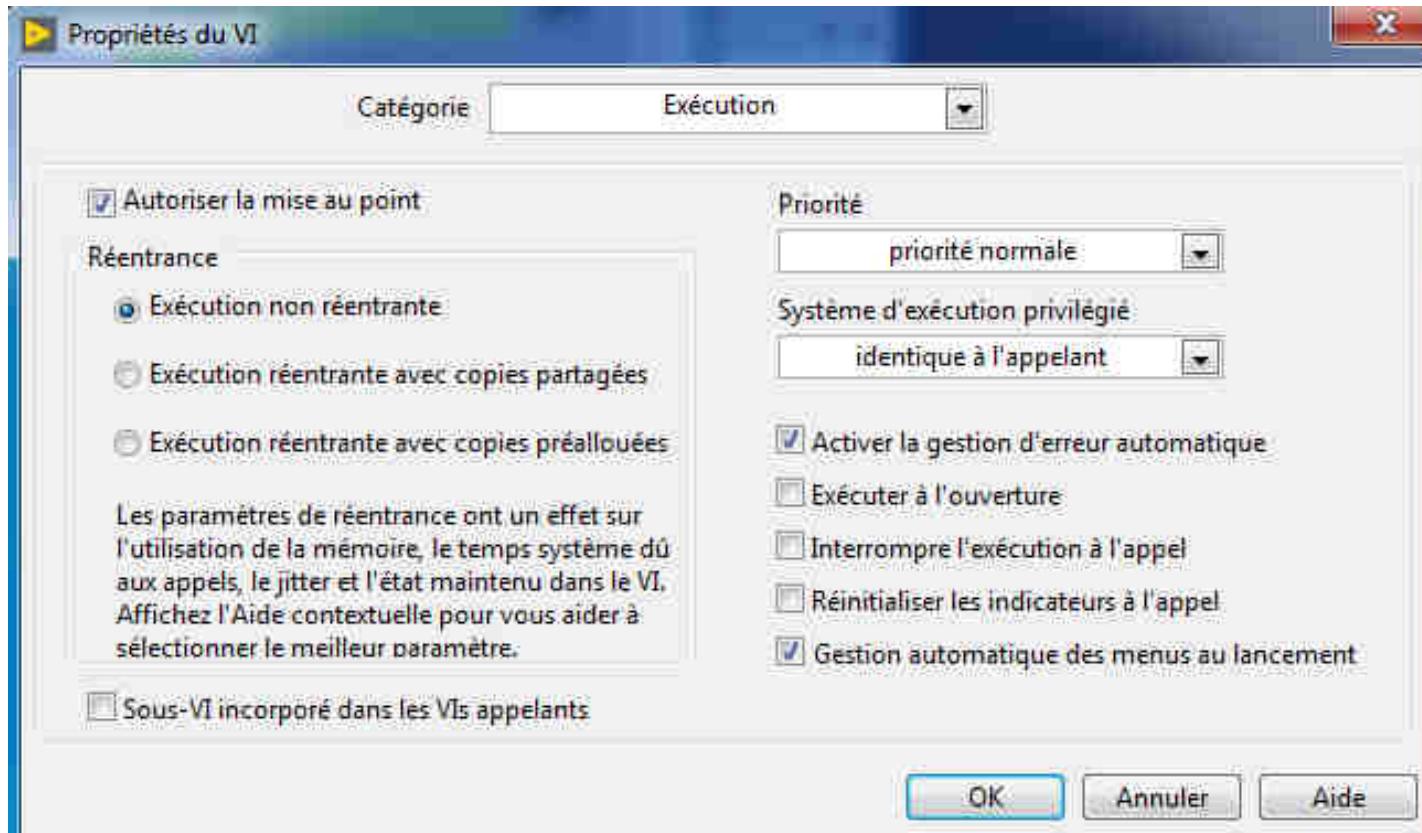
Pas de concurrence possible





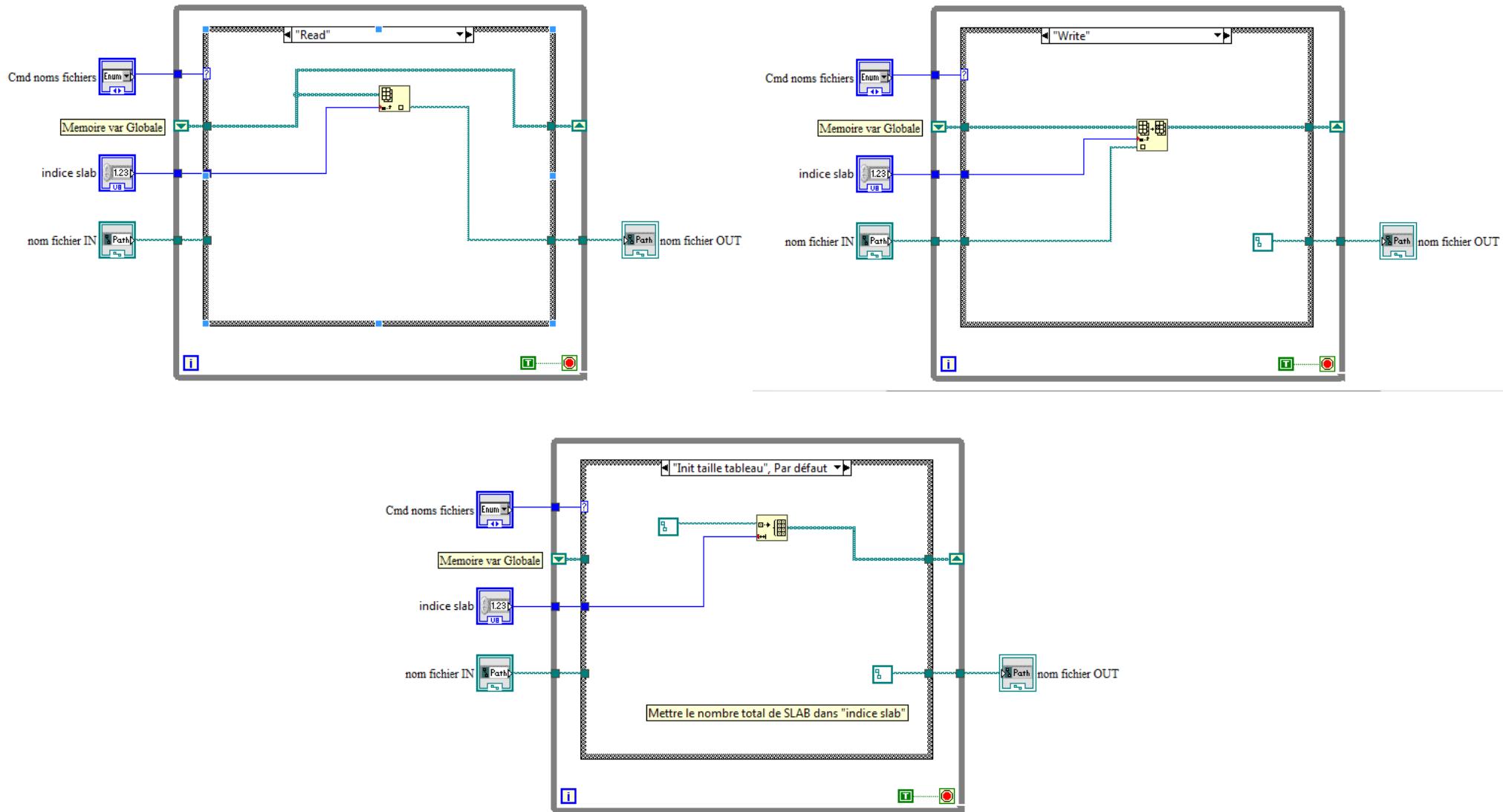
Répertoire > données (D:) > cyril > lapp > ILC > Lancement_ACQ_4M2_V6_7_en_LV2011 > VAR_globales				
Supprimer	Éditer	Outils	?	
Fichiers dans la bibliothèque		Partager avec	Graver	Nouveau dossier
Nom		Modifié le	Type	Taille
Bit_RAMFULL (var global).vi		17/09/2012 16:55	Fichier VI	18 Ko
bouton ACQavecENREG_v6_1 (var global).vi		17/09/2012 16:55	Fichier VI	44 Ko
bouton ACQtest (var global).vi		17/09/2012 16:55	Fichier VI	31 Ko
bouton bit_Pulsing_DIFs (var global).vi		17/09/2012 16:55	Fichier VI	54 Ko
bouton Gains (var global).vi		17/09/2012 16:55	Fichier VI	50 Ko
bouton lecture_Registres_DIF (var global).vi		17/09/2012 16:55	Fichier VI	63 Ko
bouton load_SC (var global).vi		17/09/2012 16:55	Fichier VI	60 Ko
bouton QUIT (var global).vi		17/09/2012 16:55	Fichier VI	34 Ko
bouton Reg3_DIFs (var global).vi		17/09/2012 16:55	Fichier VI	50 Ko
bouton Repertoire_local (var global).vi		17/09/2012 16:55	Fichier VI	58 Ko
bouton SCavecREG (var global).vi		17/09/2012 16:55	Fichier VI	44 Ko
bouton Seuils (var global).vi		17/09/2012 16:55	Fichier VI	53 Ko
bouton STOP Calib (var global).vi		17/09/2012 16:55	Fichier VI	37 Ko
bouton Voies_bruyantes (var global).vi		17/09/2012 16:55	Fichier VI	47 Ko
etat buffers USB (var global).vi		17/09/2012 16:55	Fichier VI	40 Ko
etat Nombre Calib (var global).vi		17/09/2012 16:55	Fichier VI	44 Ko
etat SC (var global).vi		17/09/2012 16:55	Fichier VI	40 Ko
noms fichiers Params (var global).vi		19/10/2017 00:22	Fichier VI	18 Ko
Registre_3_DIFs (var global).vi		17/09/2012 16:55	Fichier VI	17 Ko
SAVE config (var global).vi		17/09/2012 16:55	Fichier VI	37 Ko

VI FGV non-réentrant

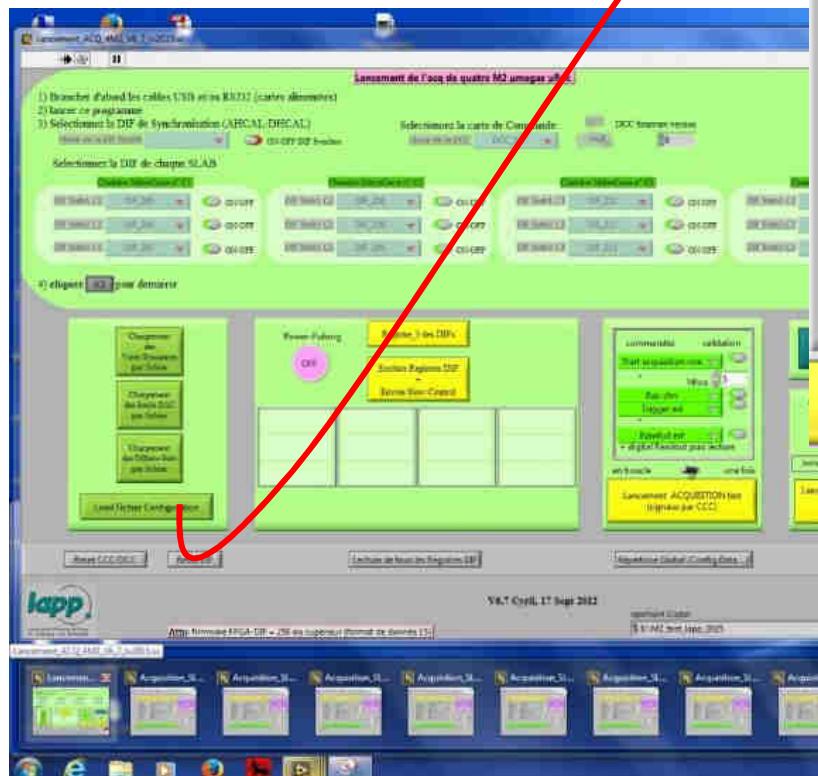




VI FGV non-réentrant

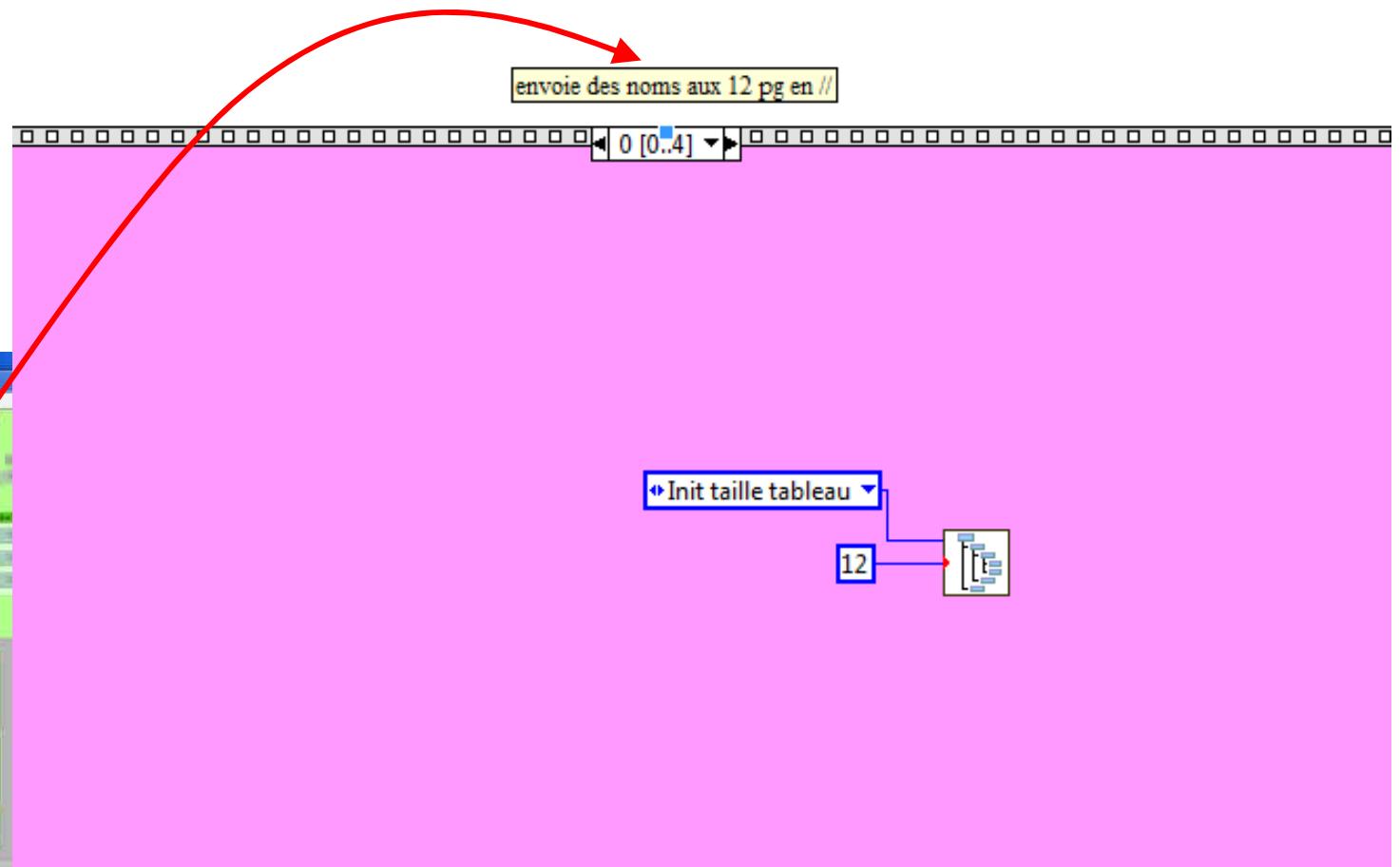
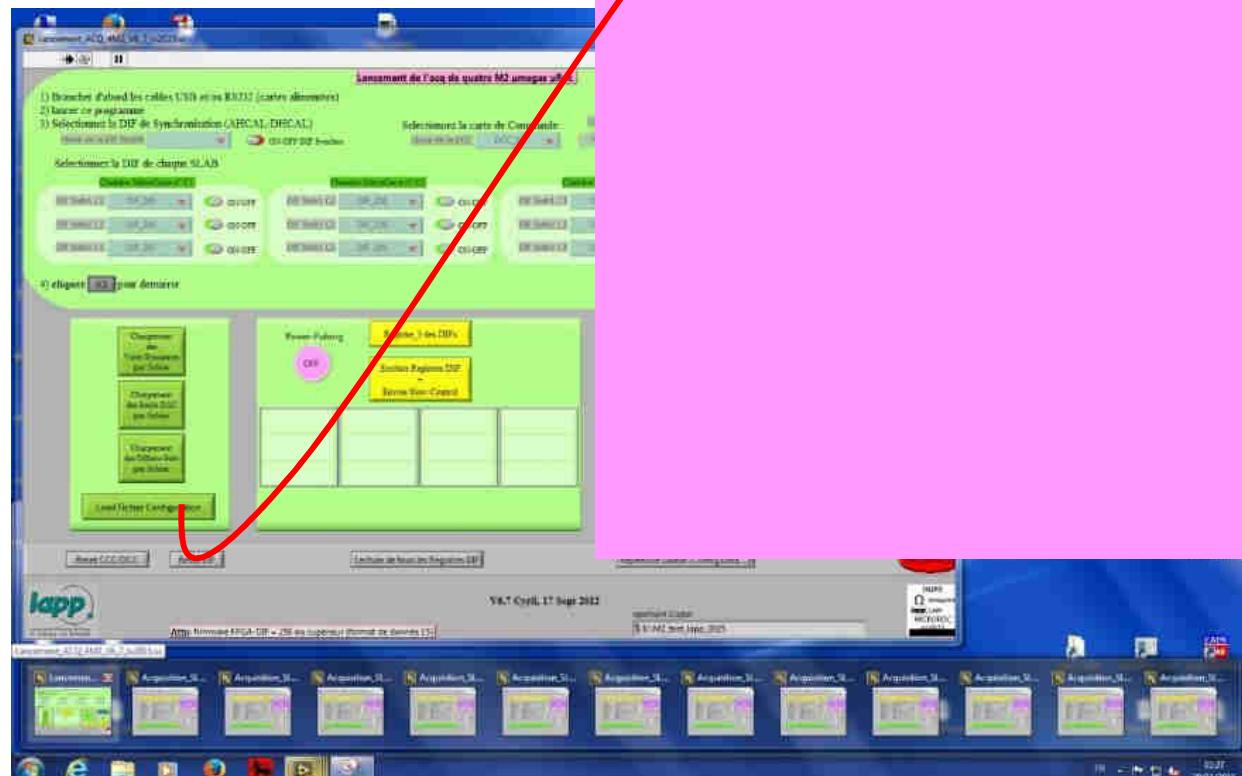


Choix des fichiers de configuration pour chaque SLAB



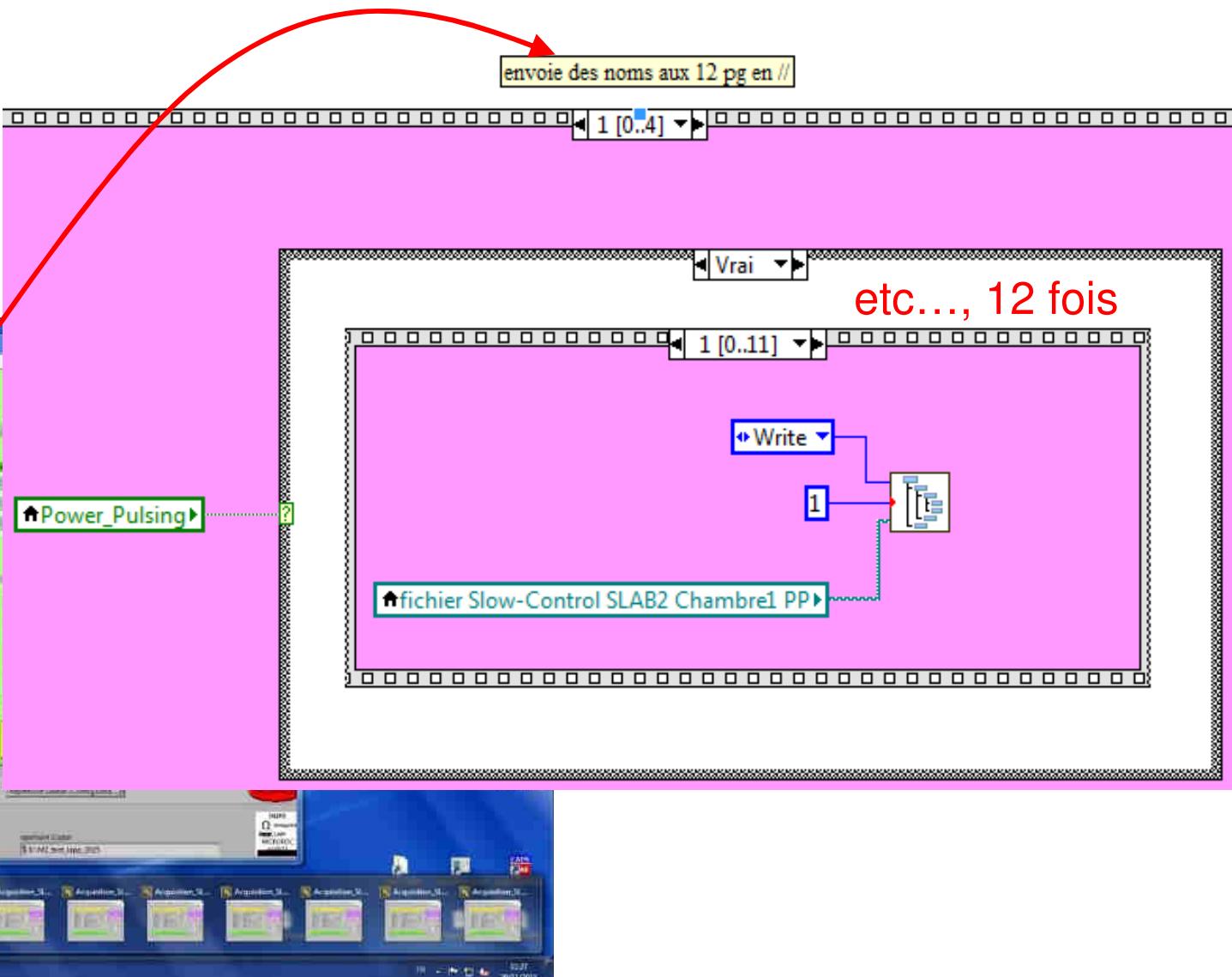
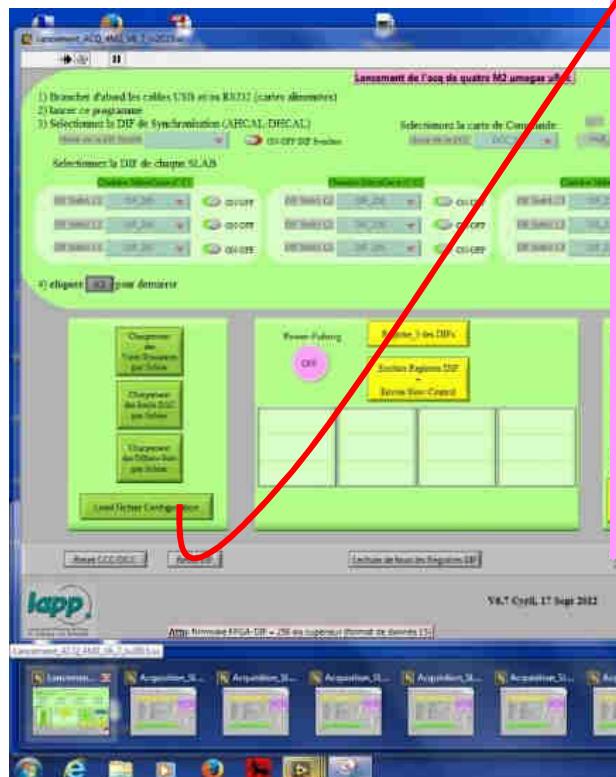
Passage par variables Fonctionnelles

Initialisation tableau FGV par le programme principal M²



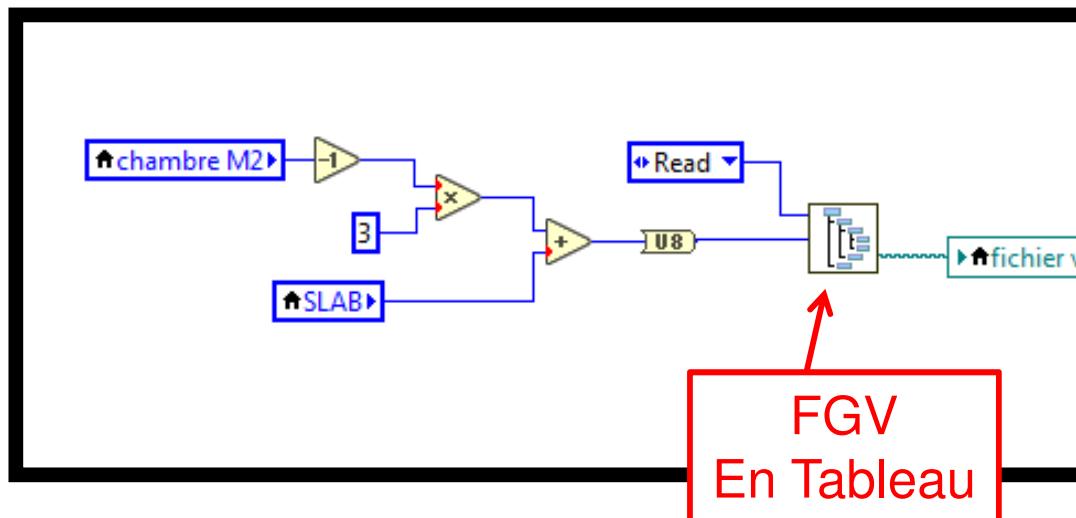
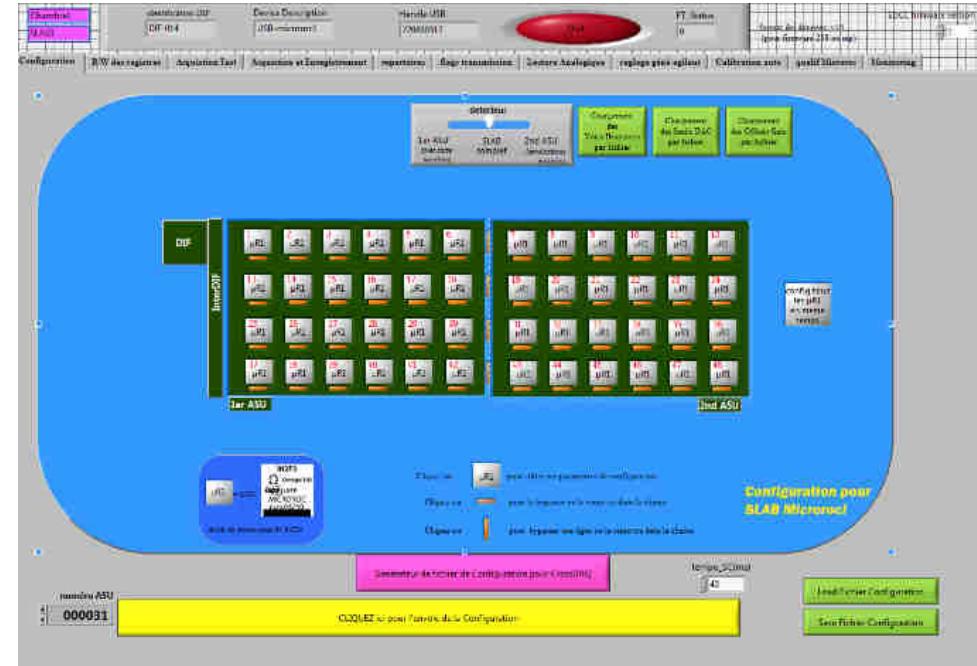
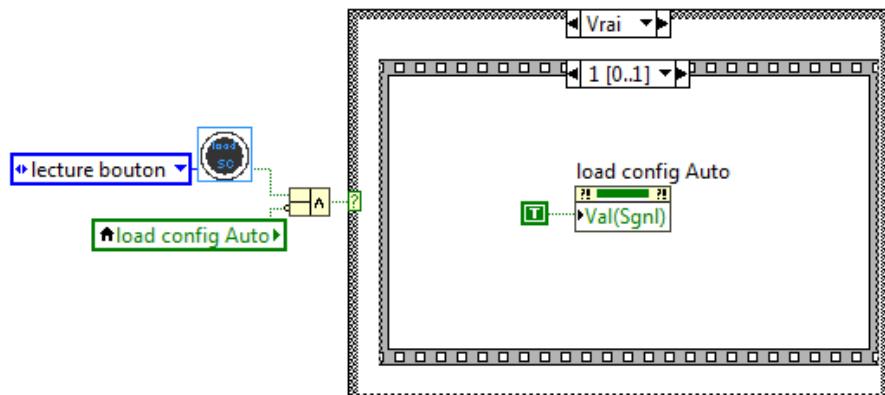
Passage par variables Fonctionnelles

Initialisation tableau FGV par le programme principal M²



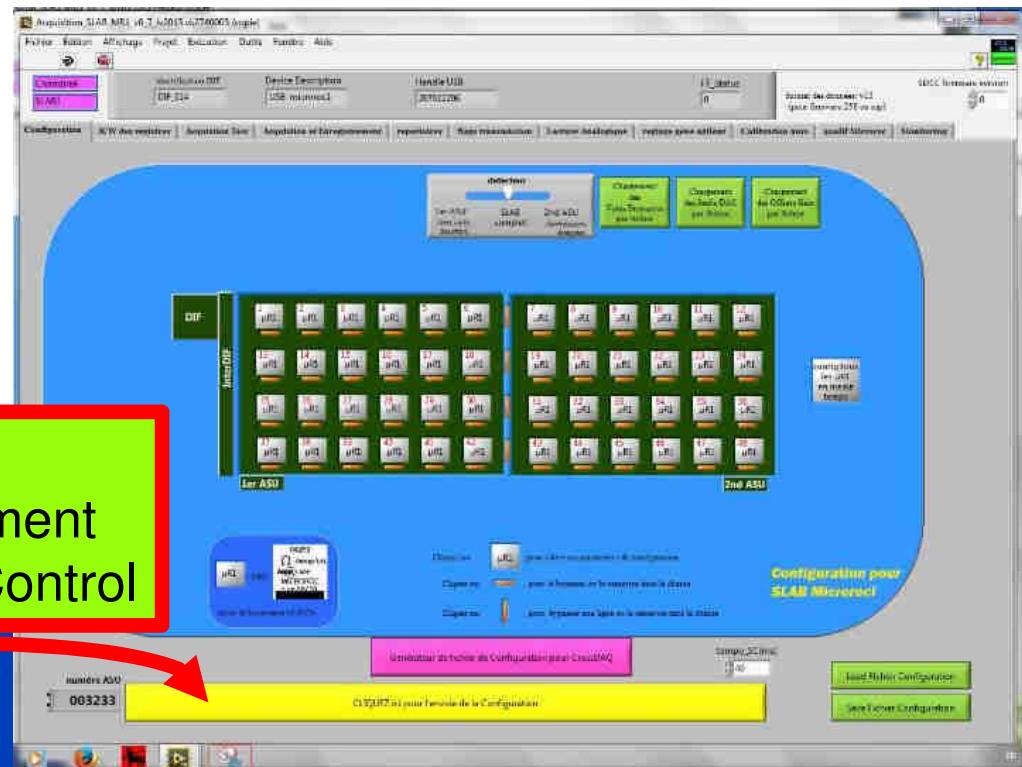
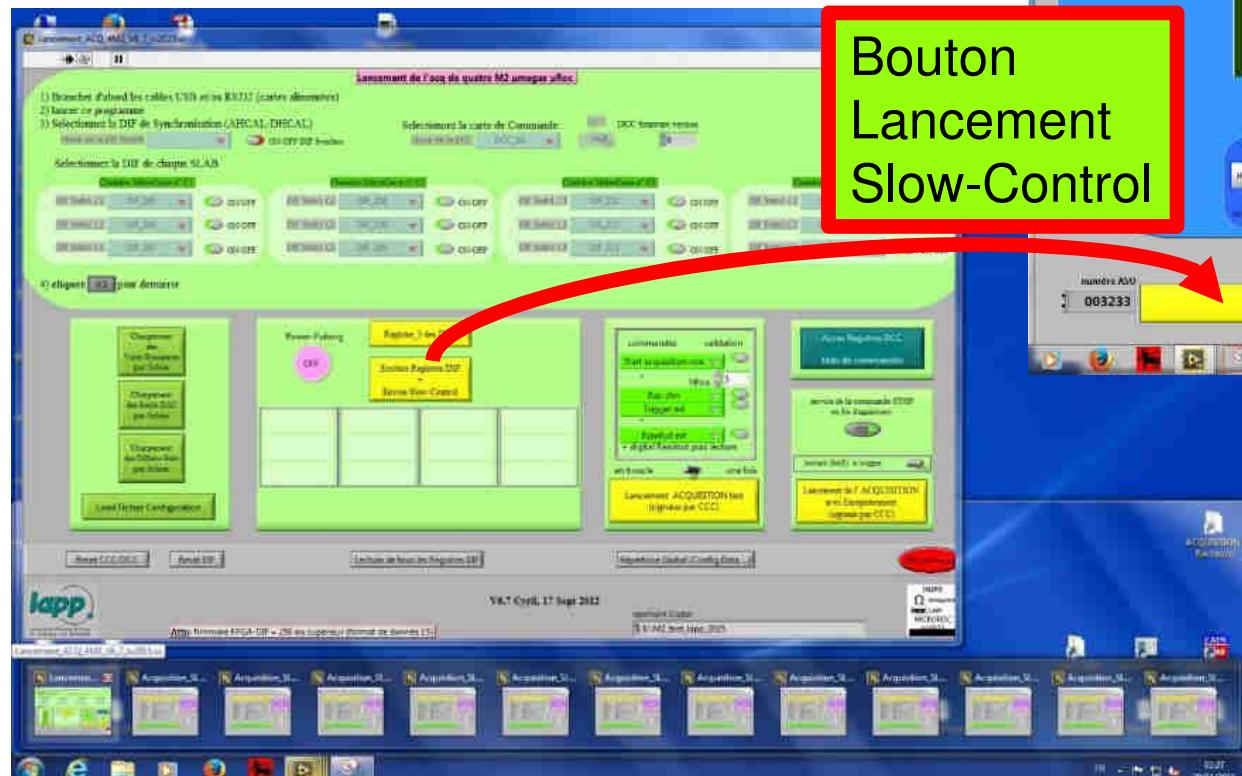
Passage par variables Fonctionnelles

Déclenchement de l'évènement « load config »



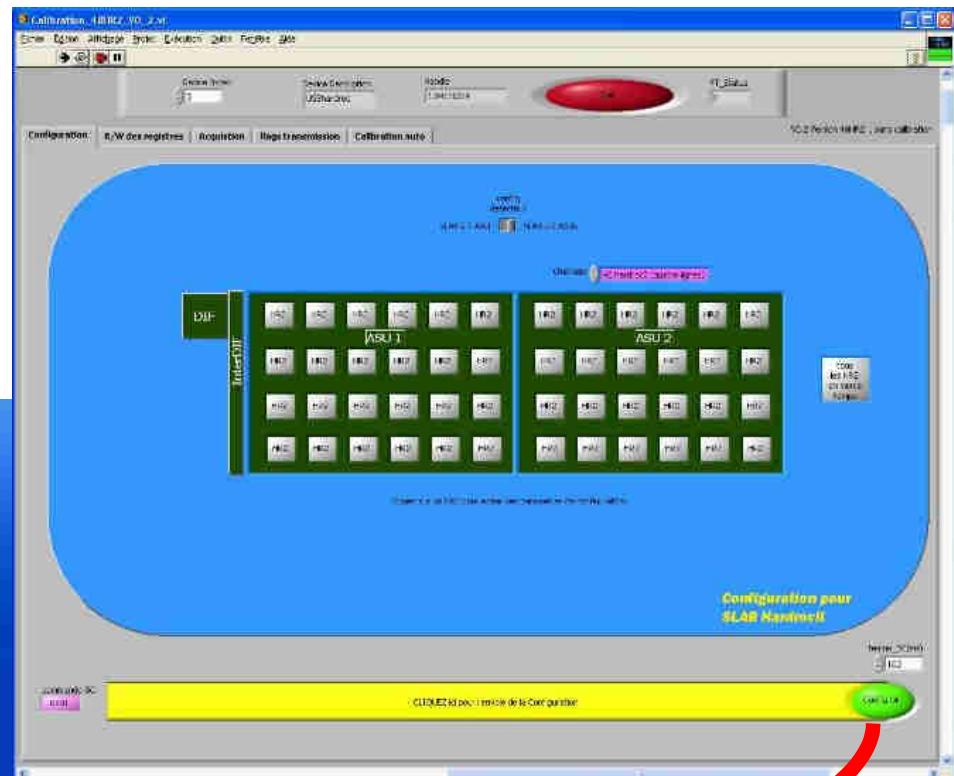
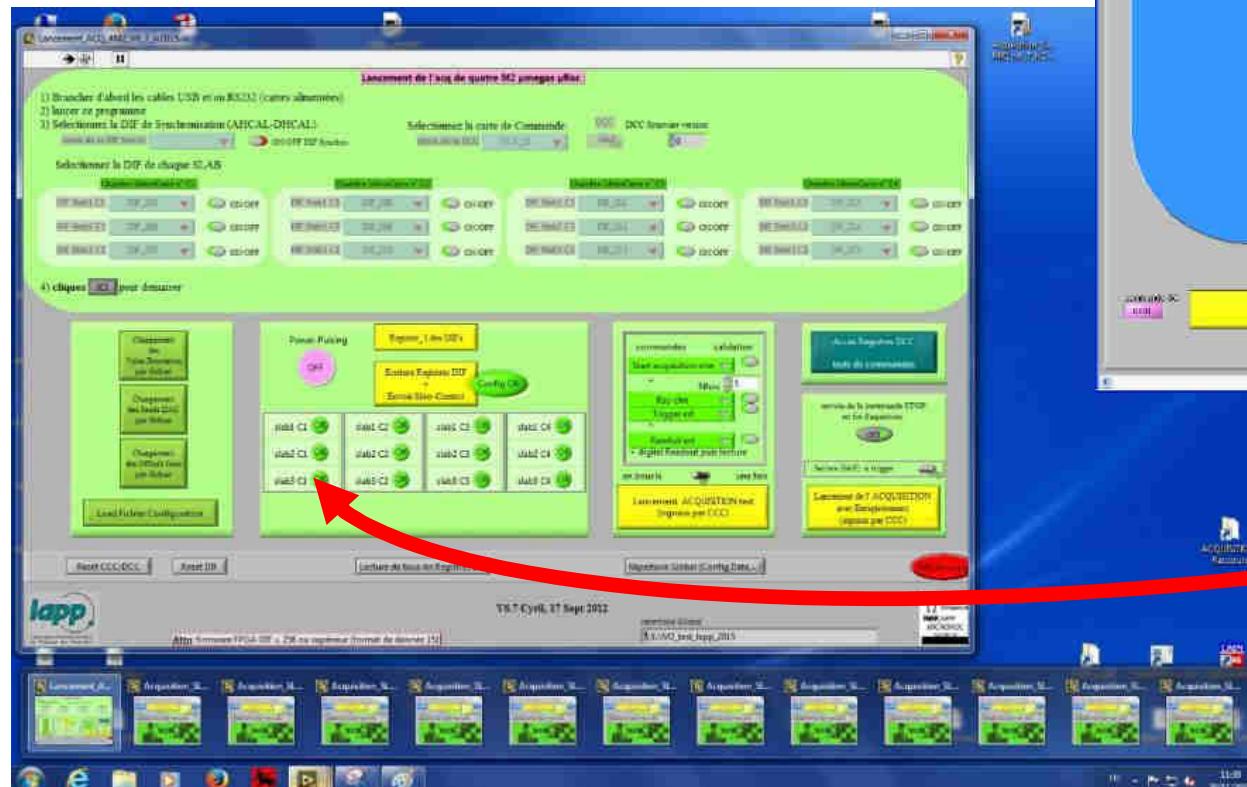
Chacun des 12 programmes SLAB va lire son propre fichier de configuration dans la même FGV

Déclenchement des évènements SLAB Par le programme principal M²



Passage par variables Fonctionnelles

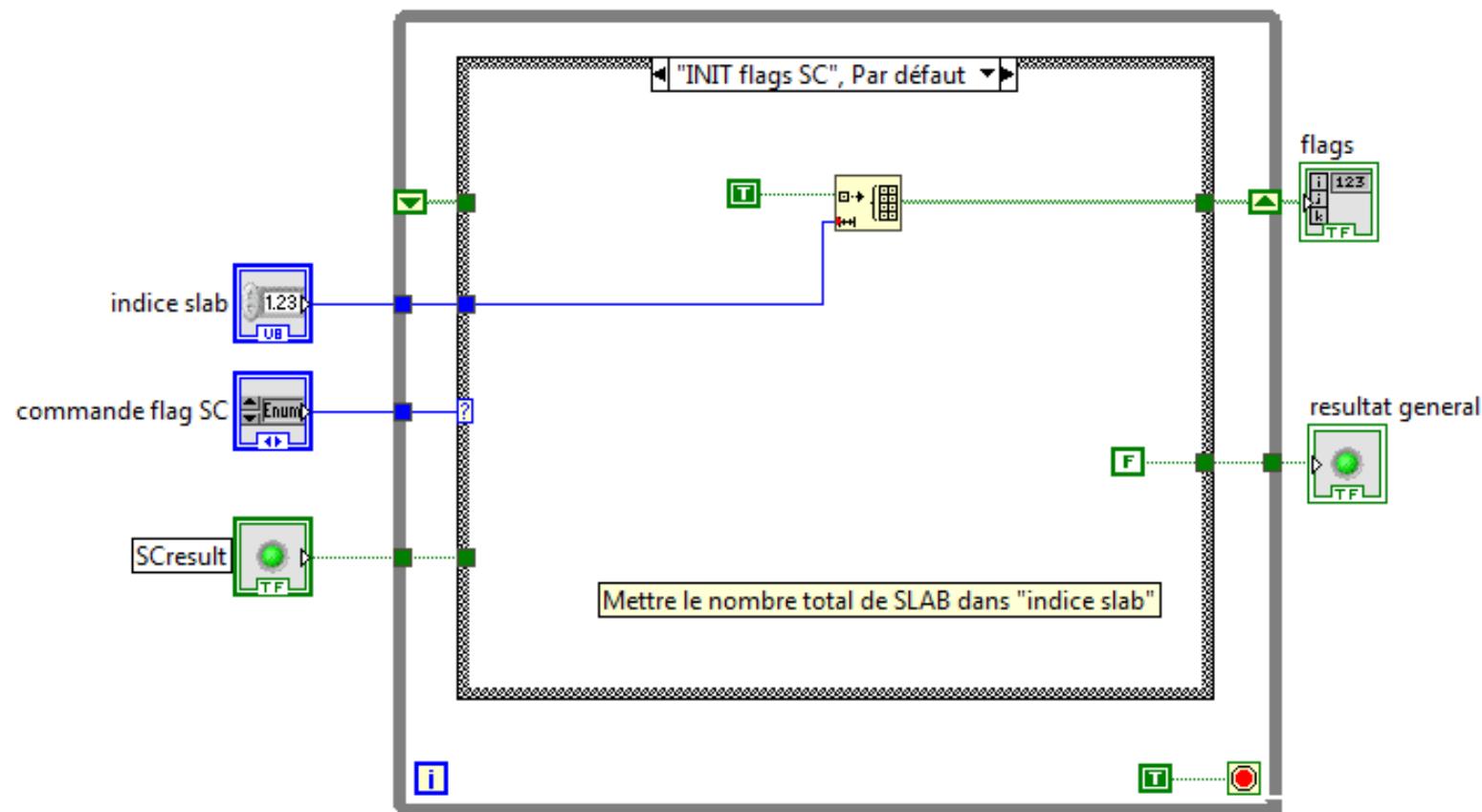
Reception des résultats SLAB Par le programme principal M²



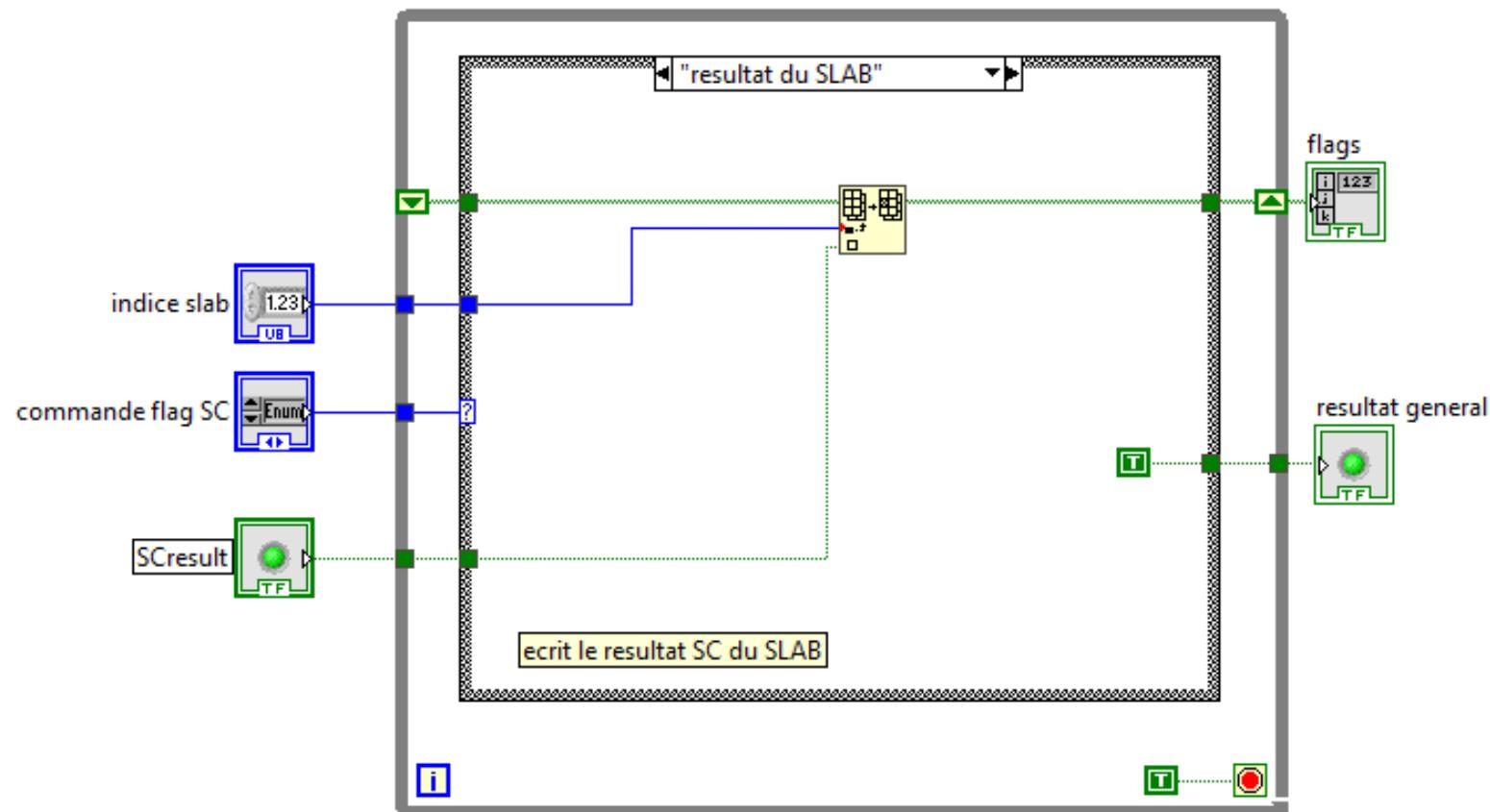
resultat
Slow-Control

Passage par variables Fonctionnelles

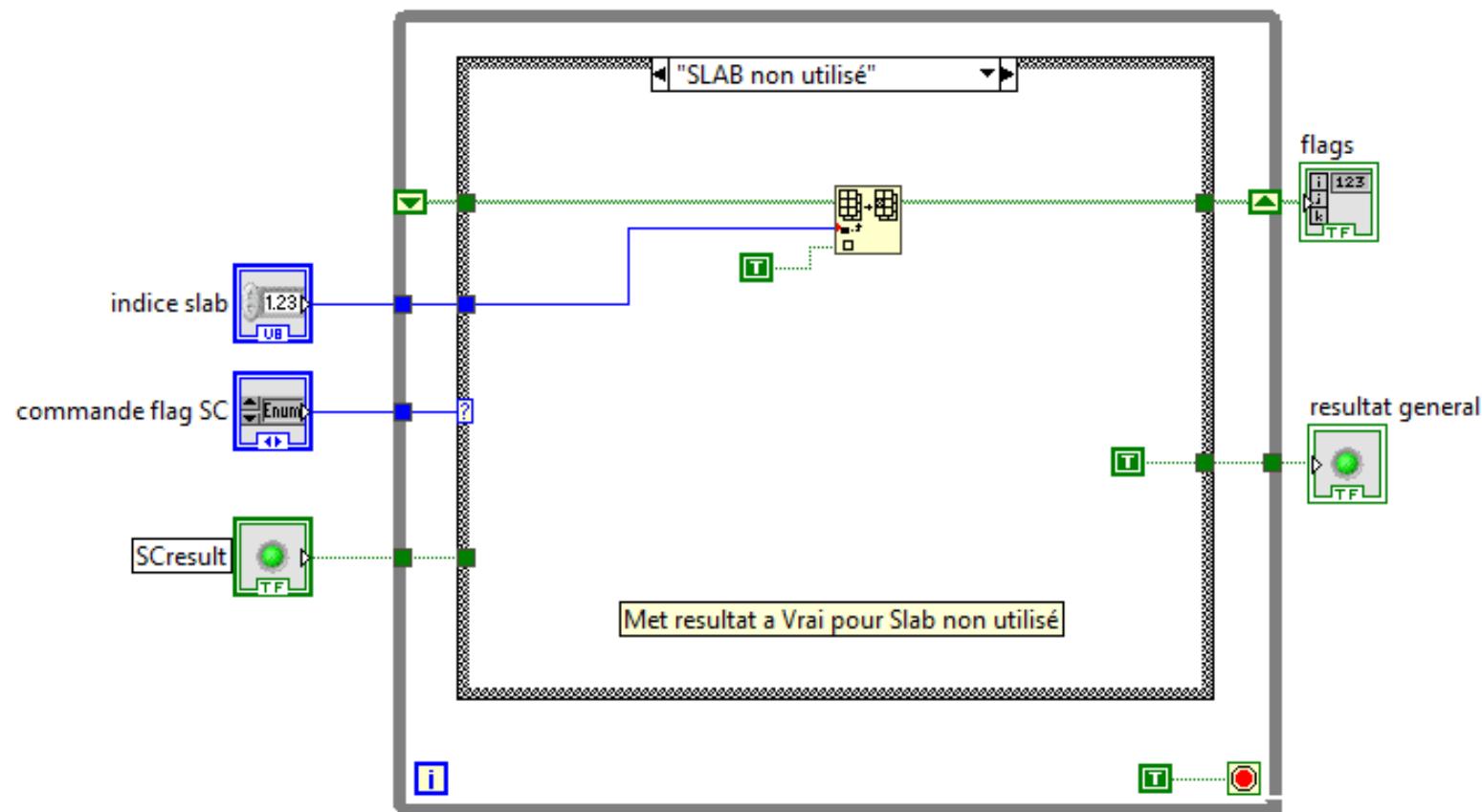
VI FGV non-réentrant



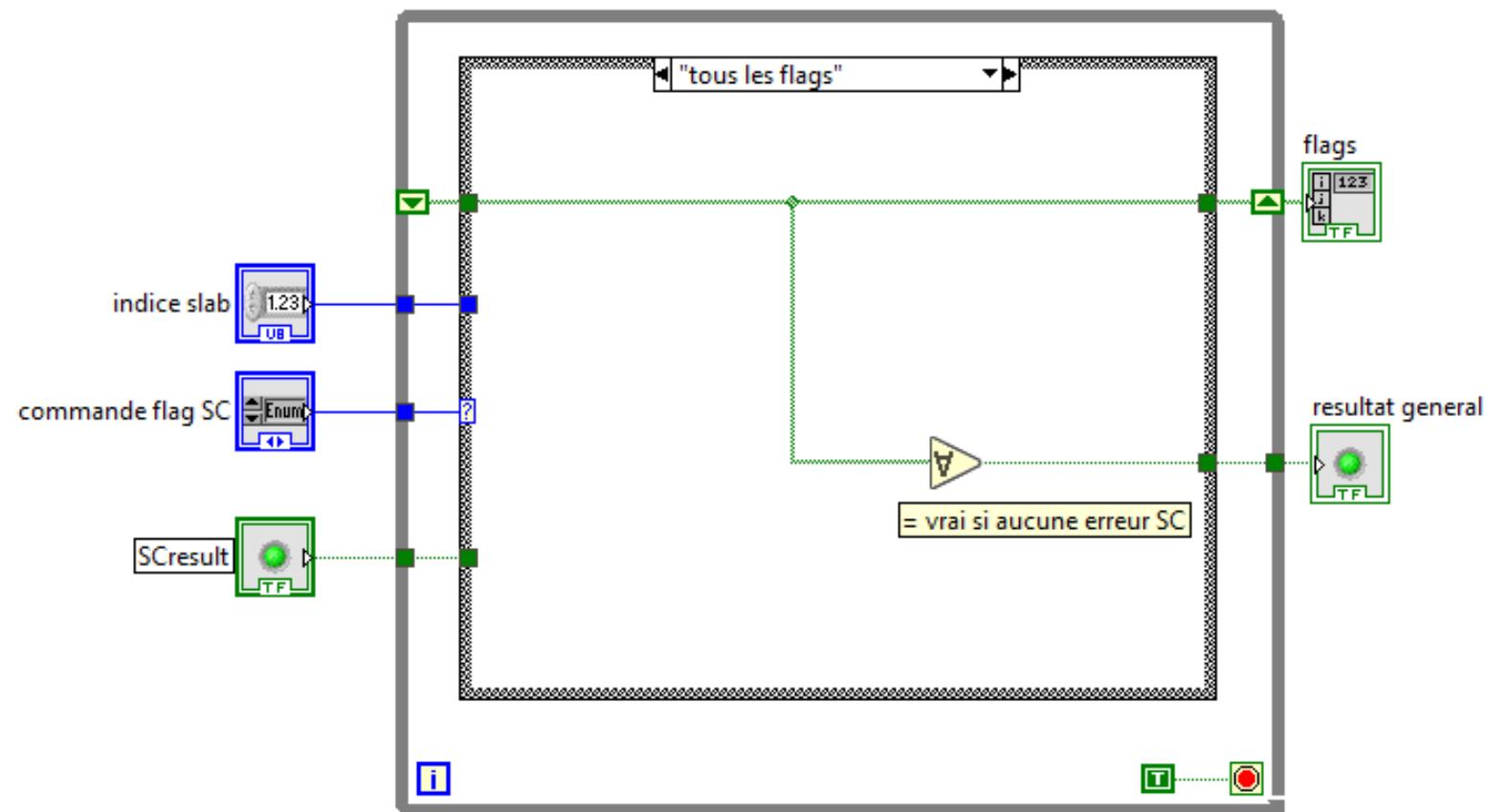
VI FGV non-réentrant



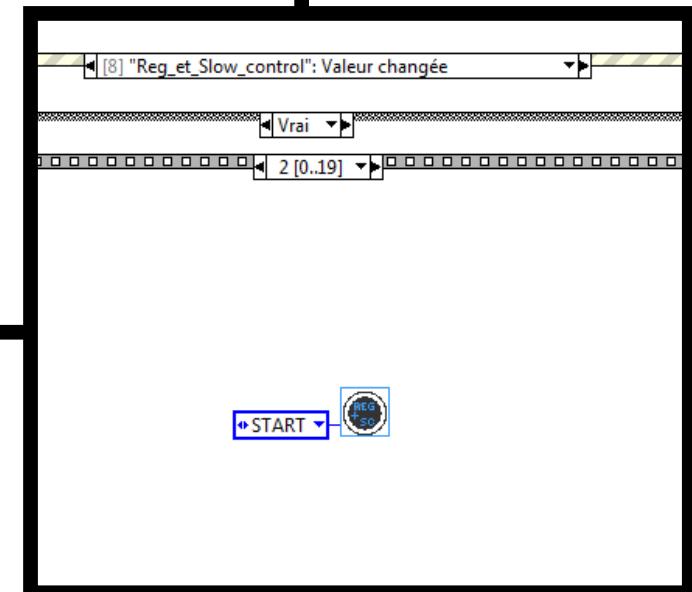
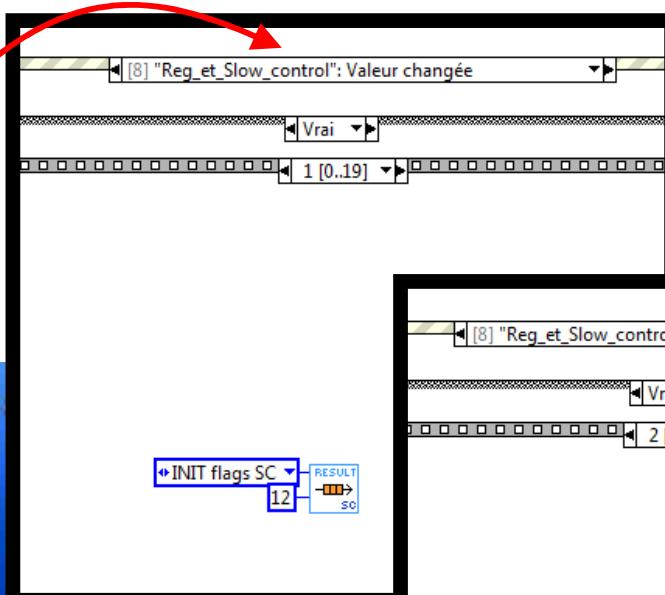
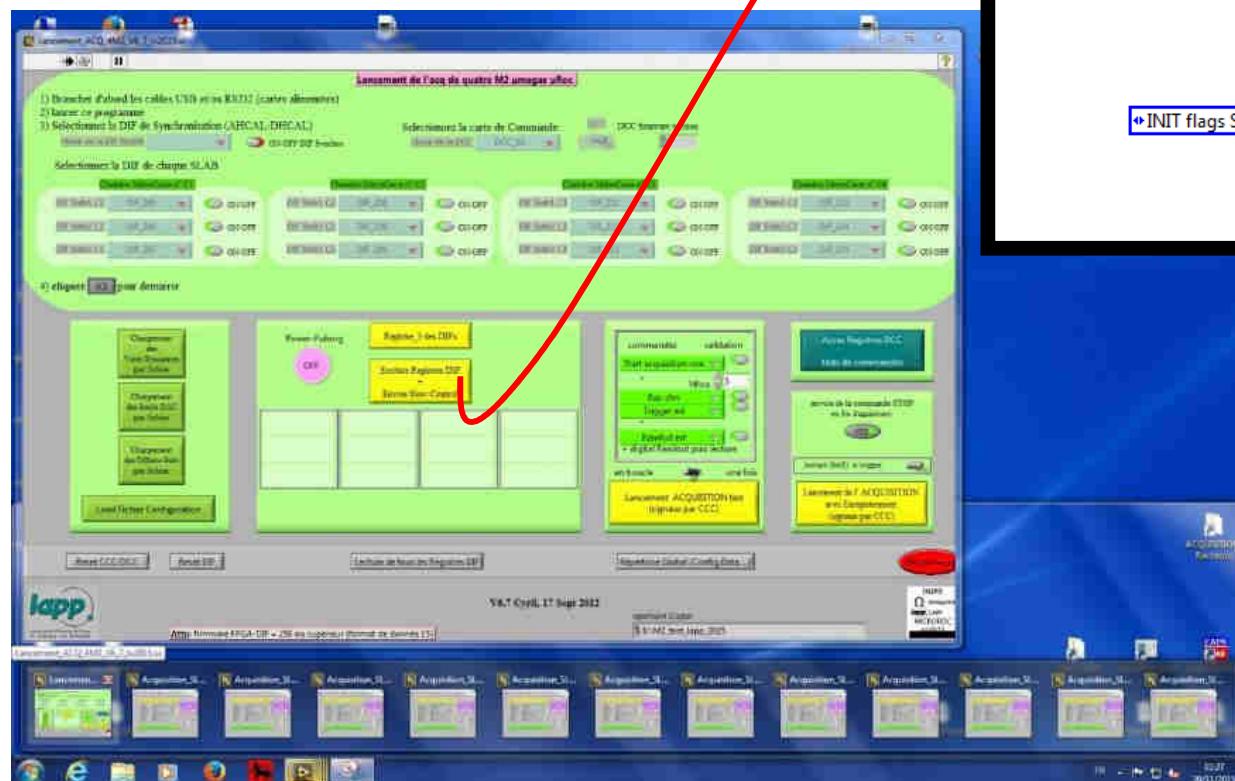
VI FGV non-réentrant



VI FGV non-réentrant

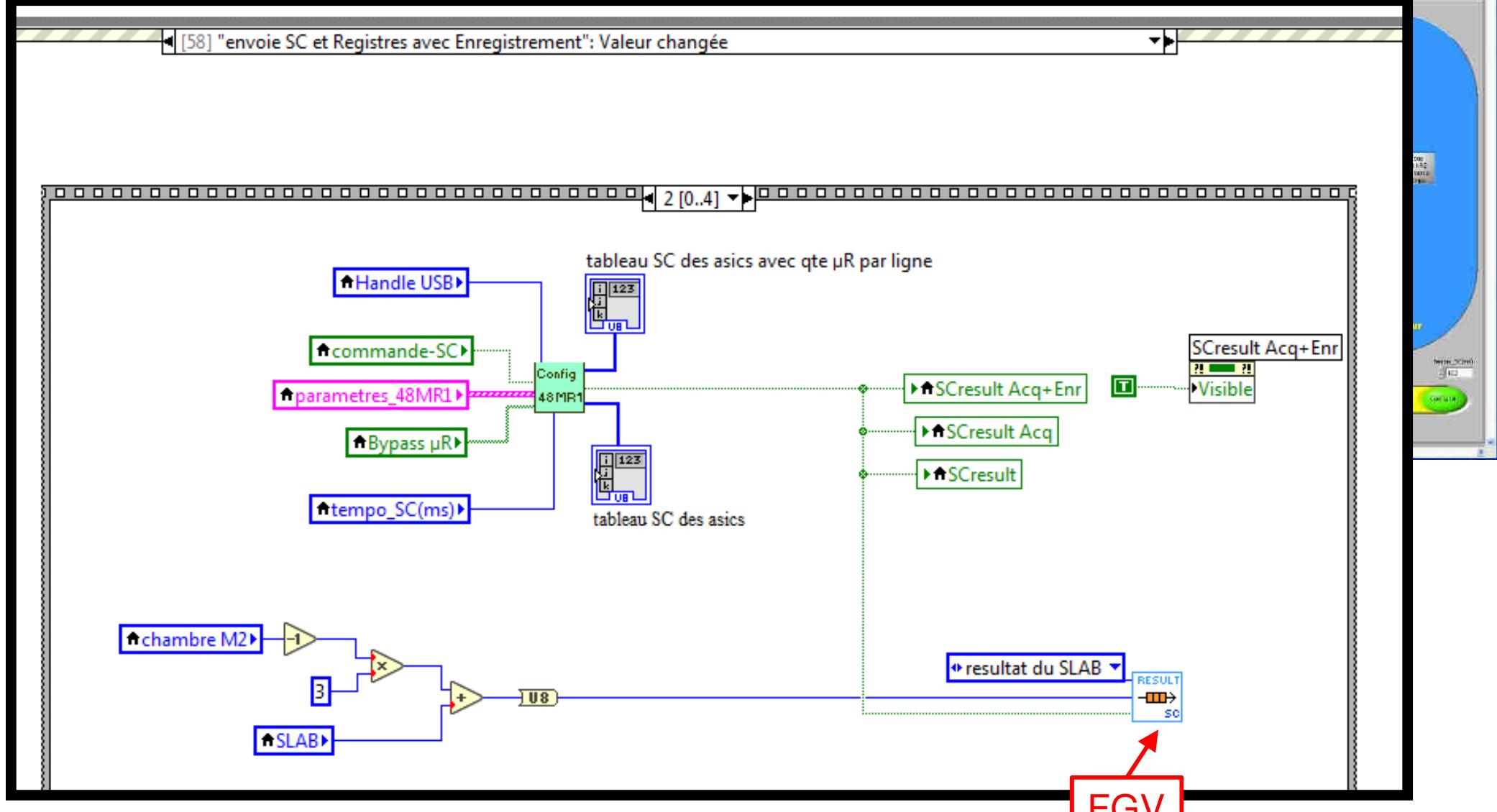


Initialisation tableau FGV par le programme principal M² pour recevoir les résultats SLAB

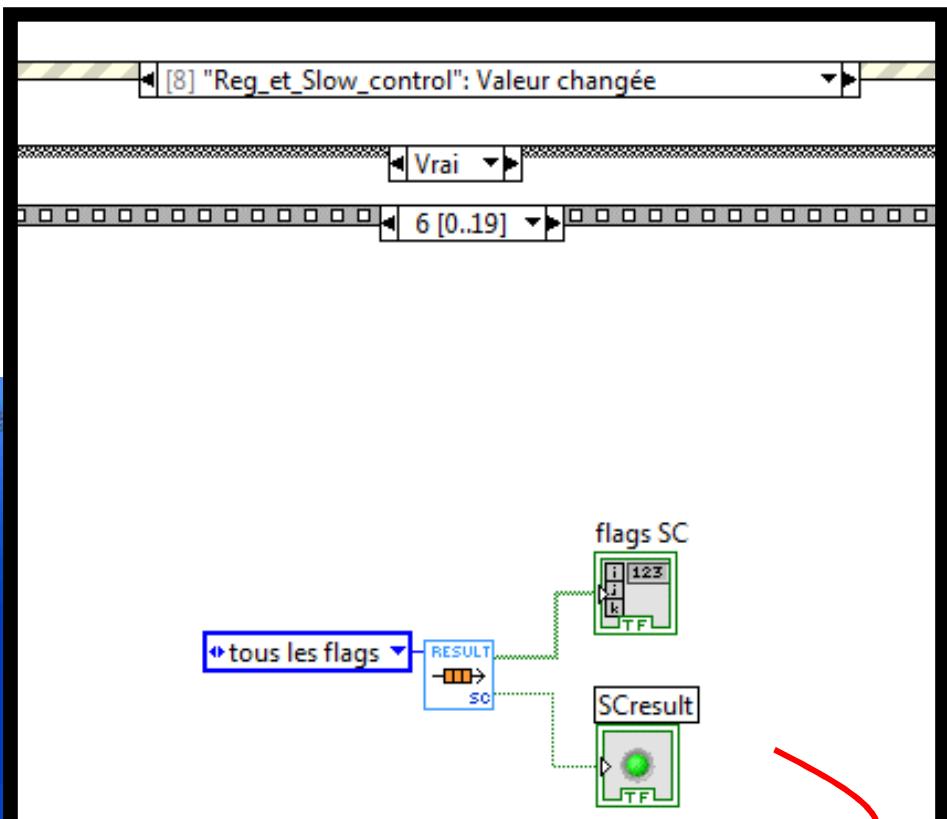
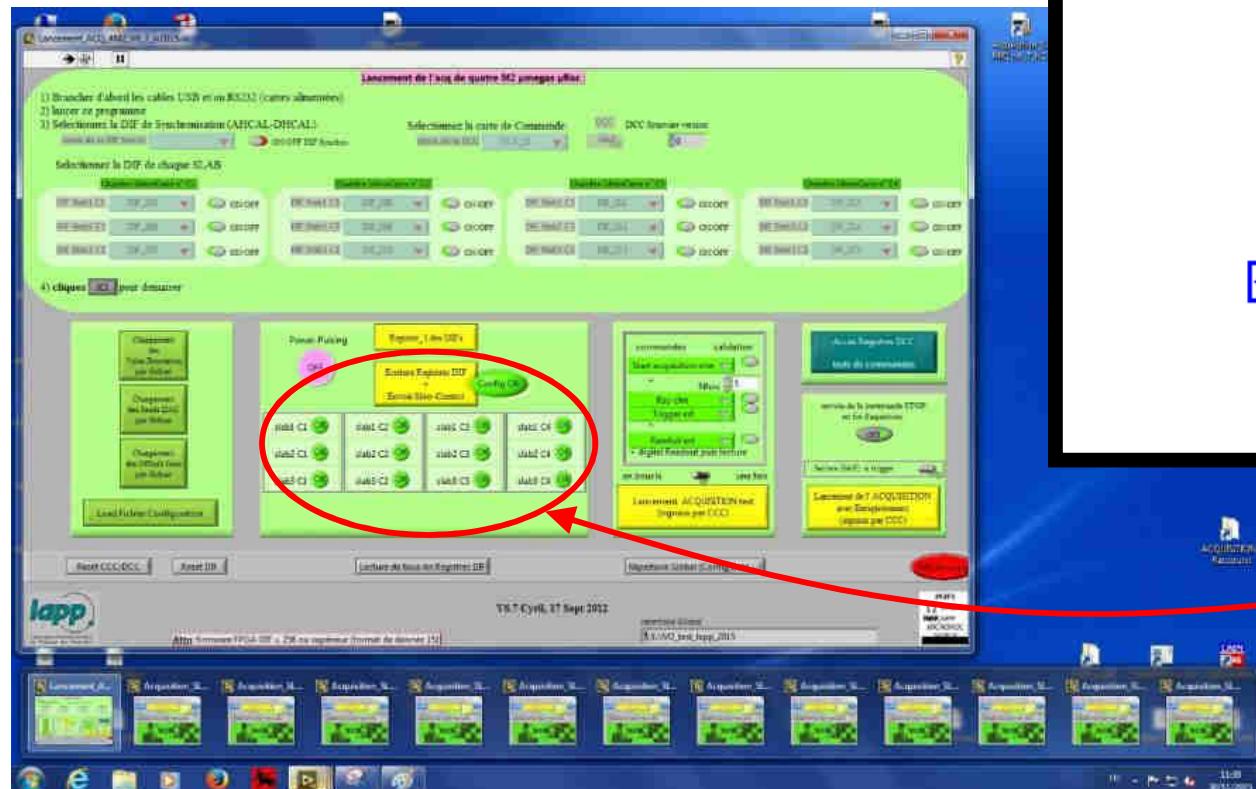


Passage par variables Fonctionnelles

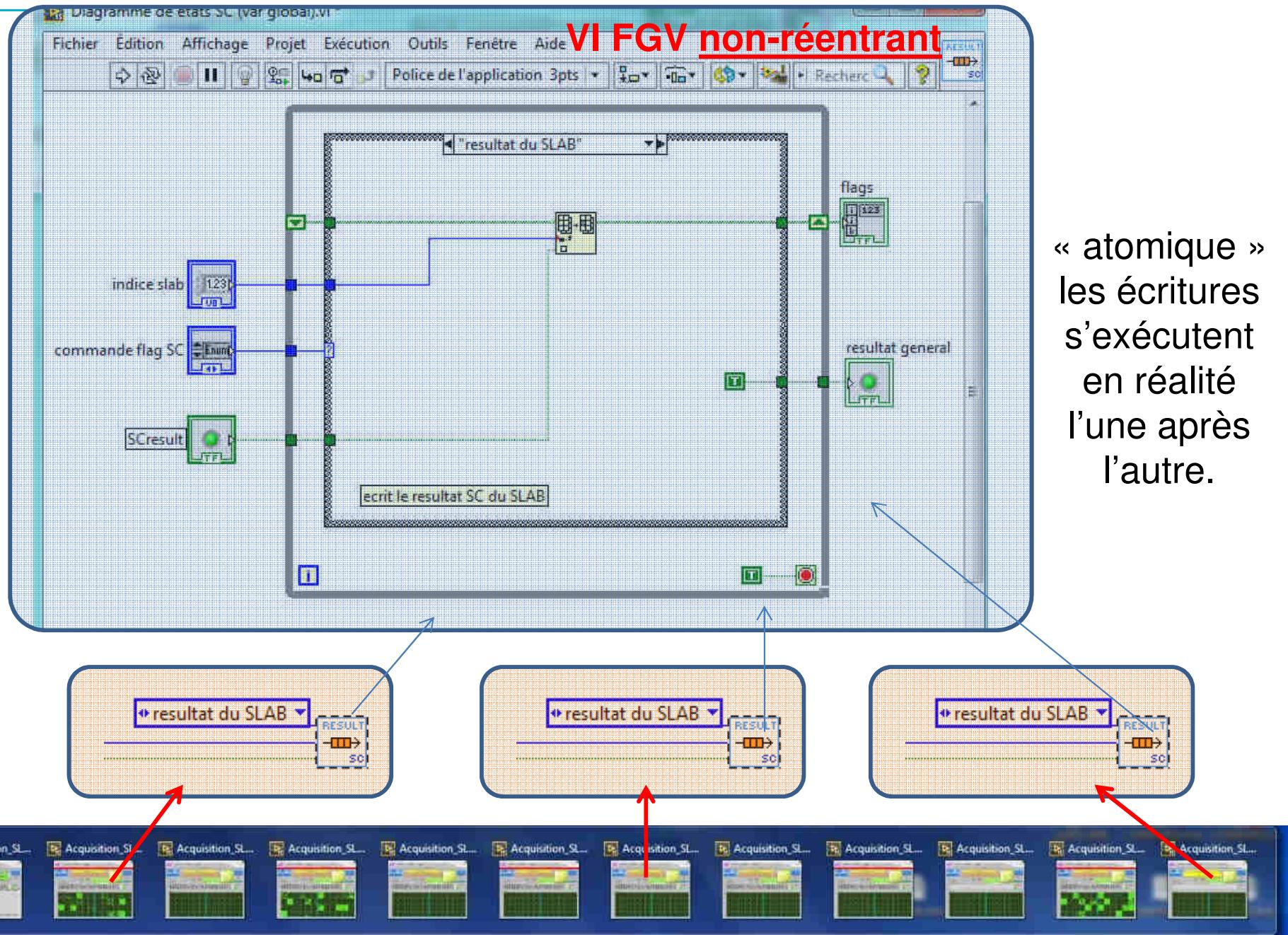
Chacun des 12 programmes SLAB retourne son résultat dans la même FGV

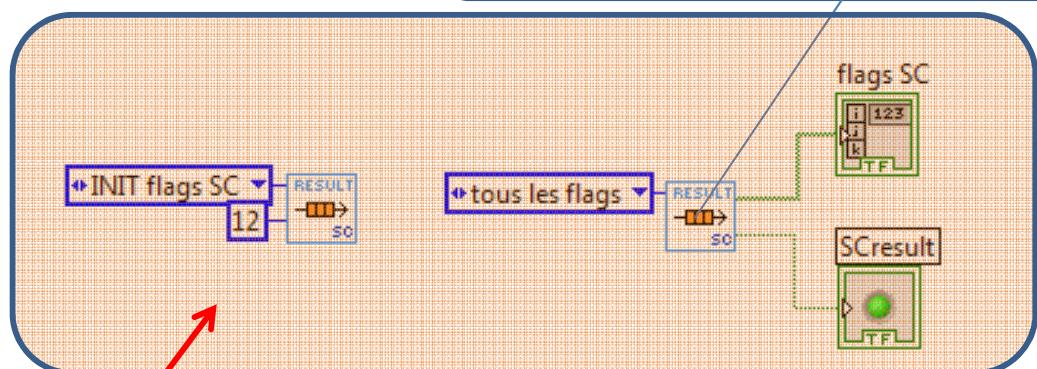
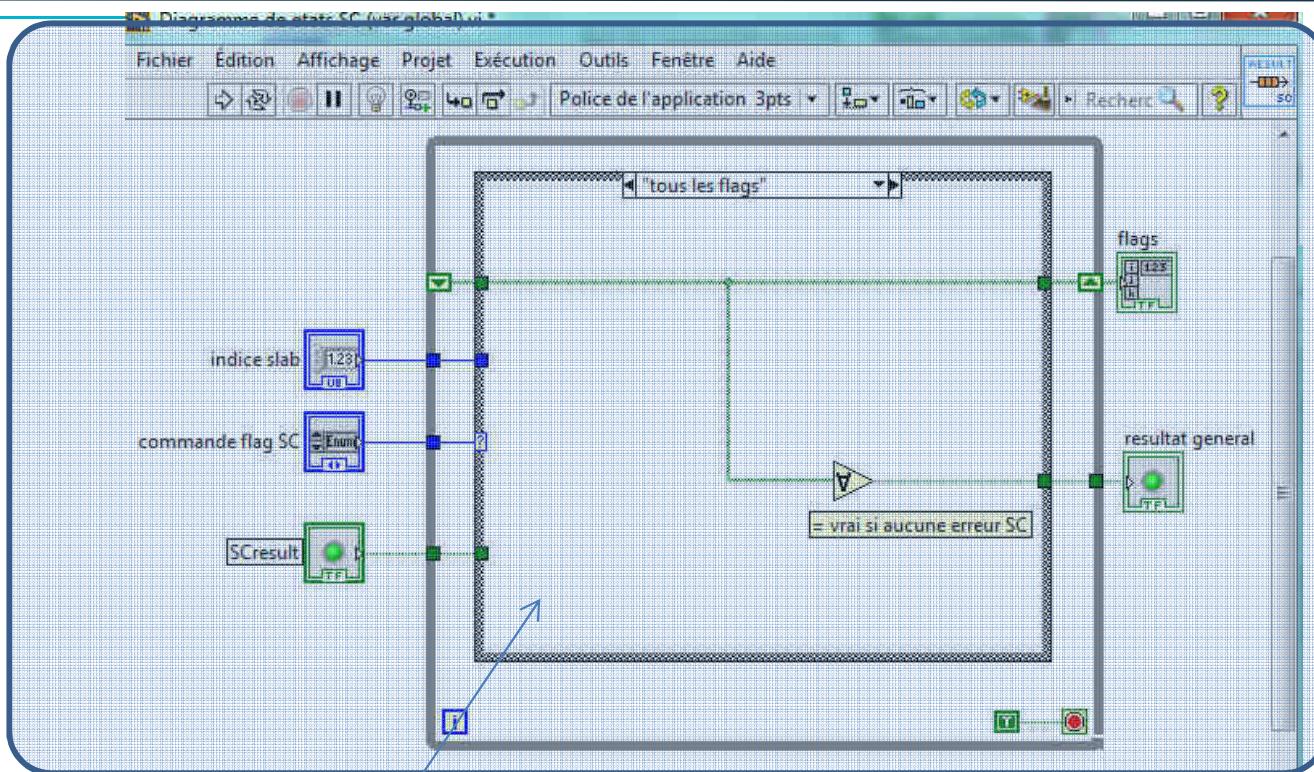


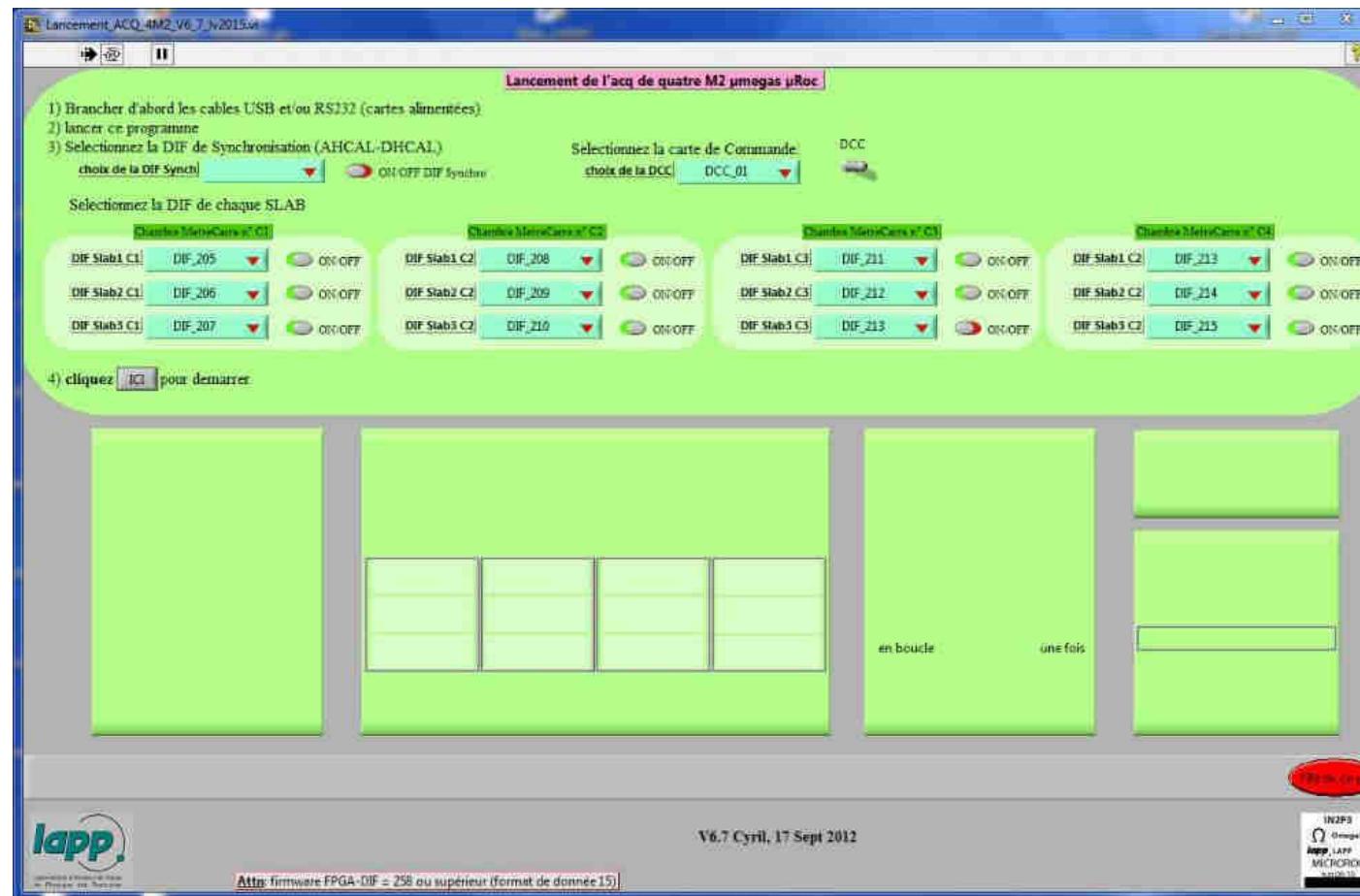
Réception des résultats SLAB Par le programme principal M²



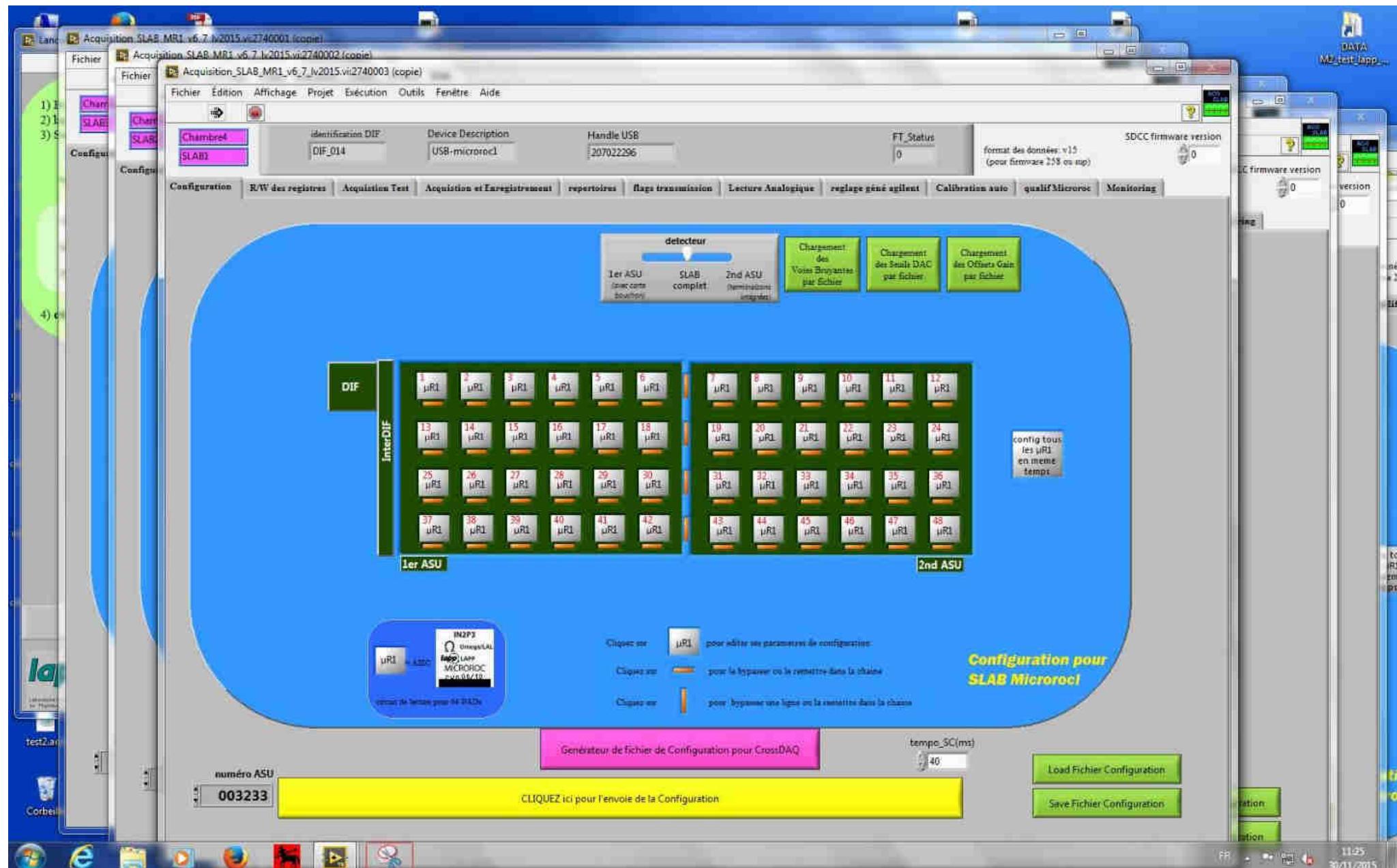
Lecture par variables Fonctionnelles

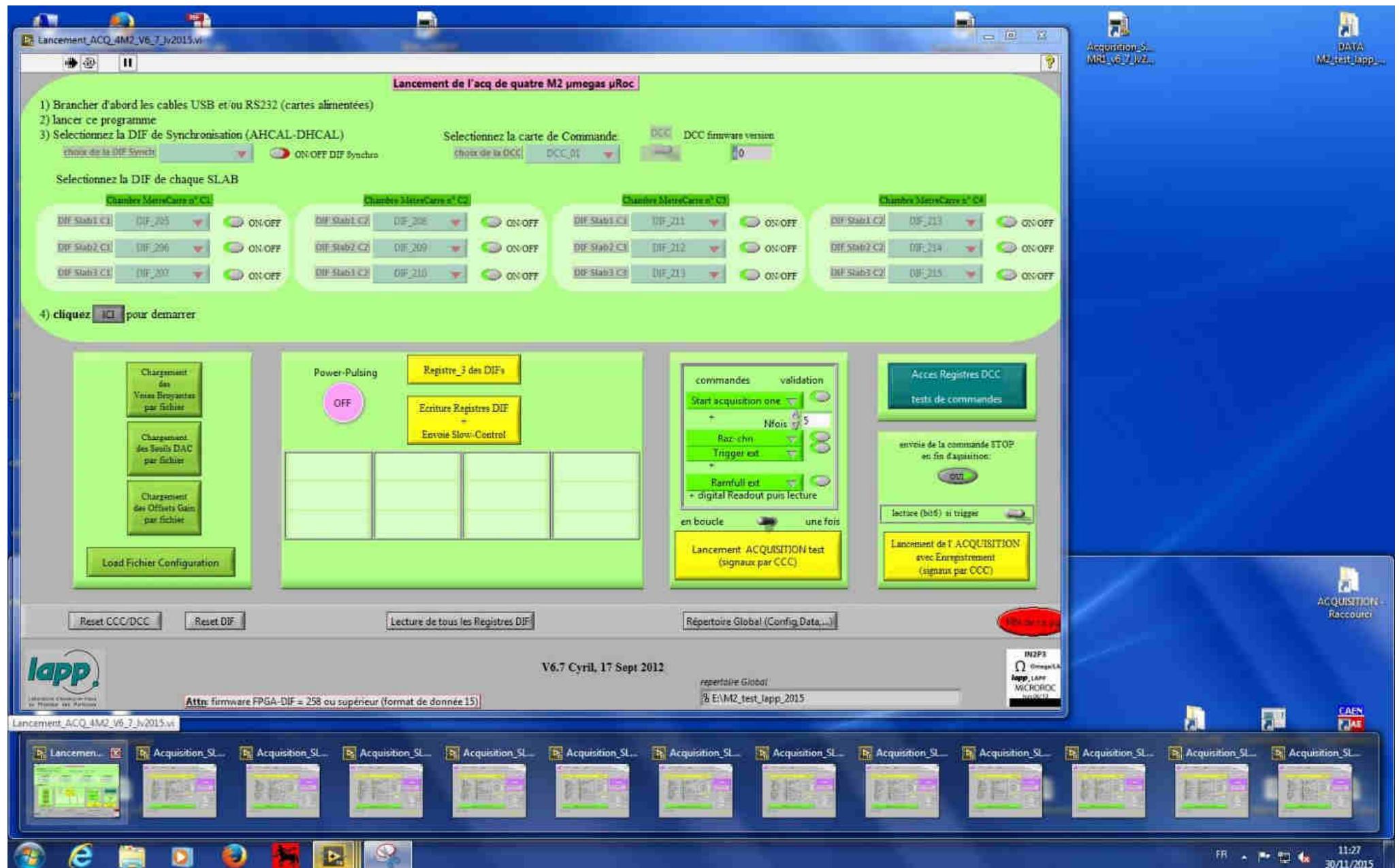






Utilisation finale du programme







Icône windows7 Rafraichi en continue