CMS Use for Crystal Channeling?

We want to measure very forward high momentum "quasi-elastic" (and elastic) protons at LHC.

For **FP420** (Forward Protons at 420m) we are designing a **Silicon pixel tracker** to approach the beam to **~ 3 mm**.
Frontal area is 6 mm (y) by 24 mm (x).
We aim to measure the p-track over ~ 10m (prob. 8m) with ~ **5 micron (um) resolution** at front, middle and back w.r.t. the beam center. dp/p ~ 10^-4
Detectors have ~ 10 um resolution, we have about 8 in stack at each station. Over 10 mm, gives < 1 mrad track segment.
Precise Beam Position Monitors (BPMs) "fixed" to detectors are essential.
We need not just [x,y] at z but [x',y'] (or [x,y] at z + 10m.)

I only have questions:

Does a channeling crystal preserve both position and slope information?
What is the mapping:

$$x_{IN}, x'_{IN}, y_{IN}, y'_{IN} \Rightarrow x_{OUT}, x'_{OUT}, y_{OUT}, y'_{OUT}$$

How close to the beam center can it go?
Is there a location downstream of CMS (where?) with space for detectors?

We are most interested in low-beta running.
(TOTEM may be interested for high-beta running.)

How precisely can (must) the crystal be positioned w.r.t the beam/absolutely?