Response Letter:
Author's responses are marked blue
Corrections in the manuscript are marked red

Authors: We would like to thank the Editor and the Reviewers for their valuable comments and suggestions to improve the quality and presentation of this work.

Reviewed by 00722050:
The article is well written and the authors are very knowledgeable in their field. However, I would add two comments, one is the interindividual variability, which does not seem has been addressed, and more explanatory note how to reconstruct the non-uniform LP function through the Equation (1).

Authors: For the interindividual variability, we would like to add the following statements for greater details in the Results Section:

"The dose contribution to the penumbra of photon IMRT beams as shown in Eq.1 contains several components, which depend on the peripheral dose deposition from every beam segment. D_s has the highest impact because it is the dose of the closer segment irradiated to the point (x,y). Another dose component is the photon leakage-scatter from the closed leaves at the jaw field opening when a particular segment is delivered. The value of the component is about 2-3% from the D_s. The parameters b and K are related to the geometry and materials used to produce the jaw-collimator system. These two components represent about 0.5% of dose from the entire IMRT beam."

For more explanatory to reconstruct the non-uniform LP function through the Eq.1, we would like to add the following statements in the Results Section:

"To reconstruct the LP profile, the coordinates of jaws and leaf control point for every beam segment are needed. The dose per beam and segmental dose are also used to calculate the LP dose for the penumbra points (x_s,y_s), where s = 1 to i (i = total number of segments). For example, assuming the IMRT beam has only one segment of 100 MU. The dose at a point of 10 cm depth from the periphery of segment would have a dose of D_s = 1 MU calculated by the dose according to the inverse square law. (i.e. $100/10^2$). If over the same point the leaves are closed during the dose delivery, 2 to 3% of the beam dose has to be added (i.e. a_s = 2 – 3 MU). Therefore, the component $b_s.e^{-K}$ is about 0.5% of dose per beam. If materials of higher or lower atomic number is used to produce the jaws and leaves, the component of $b_s.e^{-K}$ will increase or decrease according to the atomic number of the materials, respectively."