So to make sure I understand it correctly: in order to exact the G_E^n/G_M^n, you use eD scattering at different kinematic point (epsilon), and use the ratio method to extract the e-neutron scattering information.

Yes, we measure eD scattering at different epsilon values. We use it to determine the neutron Rosenbluth slope S^n. The two-photon exchange exchange contribution from the slope can be determined using existing knowledge on G_E^n/G_M^n (see answer to your second question below). The ratio $e-n/e-p$ method minimizes the systematic uncertainty on the measurement, and allows to deduce S^n from the knoweldge of the proton Rosenbluth slope S^p. From the text of the first paragraph of page 13 of our proposal (section "Technique"), we define A as our experimental observable:

$$A = R_{corrected,\epsilon_1}/R_{corrected,\epsilon_2} \tag{1}$$

with $R_{corrected}$ defined in Eq.(7). A can also be written as:

$$A = B(1+\epsilon_1 S^n)(1+\epsilon_2 S^n) \simeq B \times (1+\Delta\epsilon S^n) \tag{2}$$

with $\Delta\epsilon = \epsilon_1 - \epsilon_2$ and:

$$B = R_{Mott,\epsilon_1}/R_{Mott,\epsilon_2}(1+\epsilon_2 S^p)/(1+\epsilon_1 S^p) \tag{3}$$

(defined in our proposal text but not labeled) with

$$R_{Mott} = \sigma_{Mott,n}/\sigma_{Mott,p} \times (1+\tau_p)(1+\tau_n) \tag{4}$$

(also defined in our proposal text but not labeled).

With this information we can deduce the neutron Rosenbluth slope S^n

$$S^n = (A-B)/(B\Delta\epsilon). \tag{5}$$

My fist question is really about the jargon and notation (I apologize for my ignorance as a particle theorist): what does D(e, e'n)p and D(e, e'p)n mean?

In these notations, the particle after the bracket is the undetected particle D(e, e'n)p means that we measure quasi-elastic scattering off deuterium on the neutron, (the proton being the spectator of the reaction); D(e, e'p)n means that we measure quasi-elastic scattering off deuterium on the proton, (the neutron being the spectator of the reaction).

My second question is about physics interpretation: Once you obtain slope, how to tract the two-photon-exchange contribution?

After obtaining the neutron Rosenbluth slope, the two-photon-exchange contribution is the difference between the slope and the contribution from the form factors to this slope. Without two-photon exchange contribution, the Rosenbluth slope is:

$$S^n = (G_E^n/G_M^n)^2/\tau. \tag{6}$$

The two-photon exchange contribution is assumed to be the contribution to S^n which can't be explained by $(G_E^n/G_M^n)^2/\tau$. With the existing knowledge on G_E^n/G_M^n from the 2015 review from Perdrisat *et al.*[1], we can deduce the two-photon exchange contribution nTPE from our measured slope S^n:

$$\text{nTPE} = S^n - (G_E^n/G_M^n)^2/\tau. \tag{7}$$

[1] Eur. Phys. J. A51, (2015), http://arxiv.org/abs/1503.01452